Sky-Watcher®

TELESCOPE BASICS

Aperture (Diameter)

The clear aperture of a telescope is the diameter of the objective lens or primary mirror specified either in inches or millimeters. The larger the aperture, the more light it collects and the brighter (and better) the image will be. Greater detail and image clarity are observed as aperture increases.

Focal length

This is the distance (usually specified in millimeters) from the lens (or primary mirror) to the point where the telescope is in focus (known as the focal point) in an optical system. Generally speaking, the longer the focal length of the telescope is, the more power it has, and the larger the image and the smaller the field of view will be.

Focal Ratio

Focal ratio is the focal length of an objective divided by the effective aperture diameter. For example, the f/ratio of a telescope with a 200mm aperture and a focal length of 1000mm is: 1000/200=5, or f/5. The larger the focal ratio is, the longer the focal length is for the same aperture telescopes; and the larger the power is and the dimmer the field is for identical eyepieces. Select the focal ratio according to the power you desire. In other words, decide on the observing objects first. Though the power can be adjusted by changing eyepiece, the selections of eyepieces and focal lengths are limited. It is also necessary to check whether the focal ratio is reasonable for the aperture to make sure the power does not exceed the effective power too much. Generally speaking, it is best to select the moderate one.

Magnification

The magnification of a telescope is the focal length of the objective divided by the focal length of the eyepiece. Namely, magnification = focal length of the objective in mm / focal length of the eyepiece in mm. The longer the focal length of the objective is and the shorter the focal length of the eyepiece is, the larger the magnification is. The most common misunderstanding of telescopes is that they are rated by their magnifying power. The fact is, telescopes are rated by their aperture or light gathering capability. The aperture of a telescope is far more important than its power, because it determines the telescope's ability to resolve small or distant objects.

Light Gathering Power

The light gathered by dark adapted naked eye has the largest entrance pupil (the largest entrance pupils are from 6mm to 7mm). At night, the light gathering power of the eye = "1" (for 7mm). For telescopes, the light gathering power is determined by the aperture of the objective. Light gathering power = (the objective diameter (in mm) / entrance pupil of an dark adapted eye (=7mm))2. The larger the aperture is, the more light it collects, and the better the image is.

Limiting Magnitude

Limiting magnitude is the faintest apparent star magnitude that can be detected through a specific telescope.

Andromeda photo by Frédéric Caron, Canada. Taken with 80ED refractor.

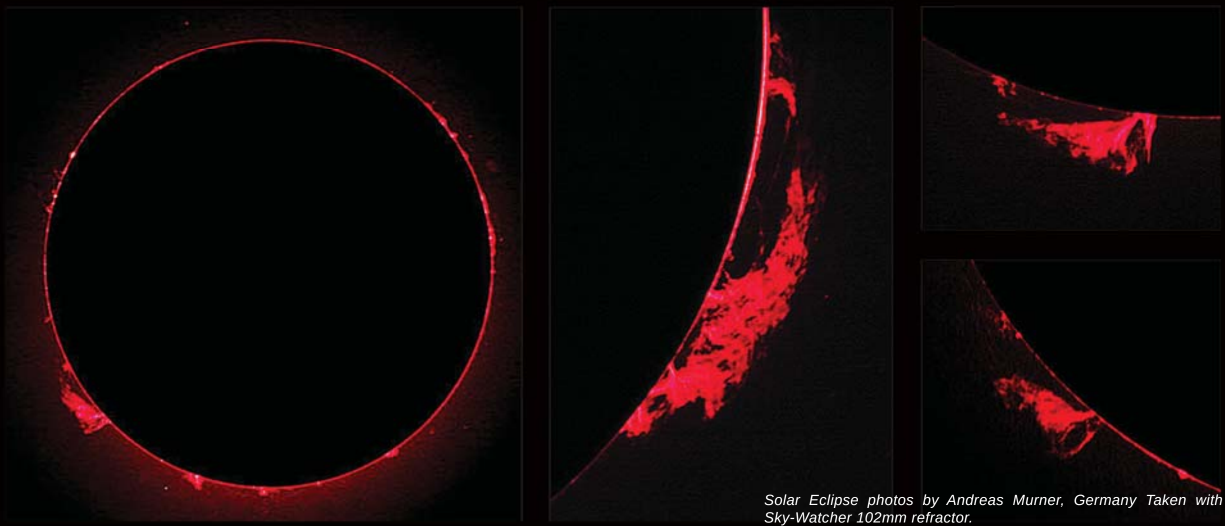
M45 photo by Frédéric Caron, Canada. Taken with 80ED refractor.

Telescopes have higher light gathering ability than the naked eye, so you can see fainter stars that are not visible with the unaided eye. The faintest star you can see with your unaided eyes is about magnitude 6, whereas the faintest star a 50mm telescope can see is magnitude 10.3 under dark skies. The larger the aperture is, the larger the limiting magnitude is. However, the limiting apparent magnitude of the sky (affected by light pollution) may impose further limitation on what can be detected.

Resolution

Resolution can be defined as the ability of a telescope to render fine details. It is measured in terms of degrees, minutes of arc (arc-minutes), and seconds of arc (arc-seconds). It is directly related to the objective entrance pupil. The larger the entrance pupil diameter (the aperture of the objective) is, the higher the resolution is, and the more details you can see. A method that is often used to measure resolution is to split two very close stars (double stars).

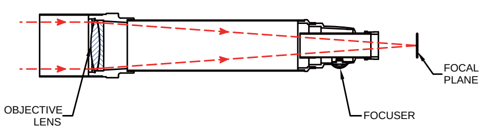
Rosette Nebula photo by Dr. Brady Johnson and Jay Ouellet, Canada. Taken with EQ6 Pro mount.



Solar Eclipse photos by Andreas Murner, Germany Taken with Sky-Watcher 102mm refractor.

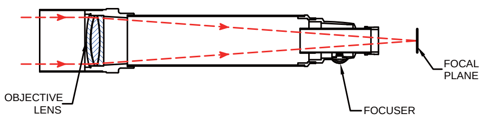
TYPES OF TELESCOPES

Type | Advantages | Disadvantages



Achromatic Refractor

The classic refractor bends the light rays by passing them through a doublet lens with elements made of crown and flint glass and have ground, polished surfaces.

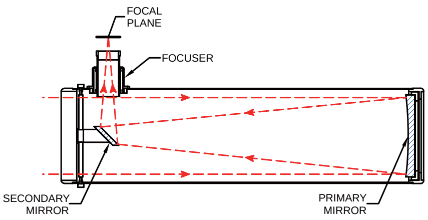


Apochromatic Refractor

To eliminate chromatic aberration, such telescopes use doublet or triplet lens with one element made of extra-low dispersion (ED) glass.

Advantages:
Enclosed optical tube protects optics;
Durable and virtually maintenance-free for decades;
Don't require routine collimation;
Form high contrast and fine resolution images with no central obstruction;
Excellent for lunar, planetary and binary star viewing especially larger apertures;
Apochromatic refractor produces a very crisp image that is virtually free of false color

Disadvantages:
More expensive, heavier, longer and bulkier than other equivalent aperture telescope designs;
Lens that are too large will sag due to gravity, distorting the image it produces, which limits the practical maximum lens size to smaller aperture;
Some false color in achromatic designs

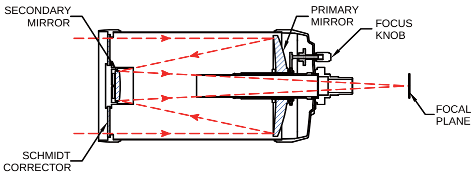


Newtonian Reflector

A Newtonian reflector reflects the light rays off of the surface of a curved mirror which is coated with a reflecting material.

Advantages:
Reasonably compact and portable up to focal lengths of 1,000mm;
Free of false color;
Excellent for viewing nebulae, remote galaxies and globular star clusters;
Also good for solar, planetary and lunar viewing;
Perform superbly on deep sky astrophotography

Disadvantages:
Generally not suitable for viewing terrestrial subjects;
Require more care and maintenance and occasional adjustment of their mirror alignment;
Minute loss of light due to secondary (diagonal) obstruction

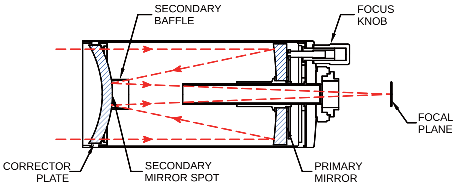


Schmidt-Cassegrain (SCT)

Schmidt-Cassegrains use a primary and secondary mirror to "fold" (reflect) the light path and form an image. A thin aspheric Schmidt corrector plate is used to correct the spherical aberration caused by the concaved primary mirror.

Advantages:
Versatile, great all-purpose instruments;
Extremely compact and portable;
Deliver razor sharp images over a wide field of view;
Good for high power planetary and lunar viewing and photography;
Adequate for deep sky

Disadvantages:
Slight light loss due to secondary obstruction

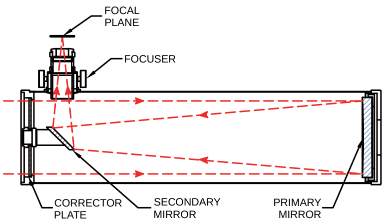


Maksutov-Cassegrain

Maksutov-Cassegrains are similar to the Schmidt-Cassegrains. They also have a corrector plate to remove spherical aberration, but they use a thick, meniscus lens instead of a Schmidt lens.

Advantages:
Very compact and portable;
Short physical length telescopes with a long focal length good for planetary viewing;
Sharp optics;
Good for revealing Lunar and planetary details at high power and excellent for terrestrial applications

Disadvantages:
Slow focal ratios and narrow field;
Long time to cool down in large apertures;
Slightly heavy

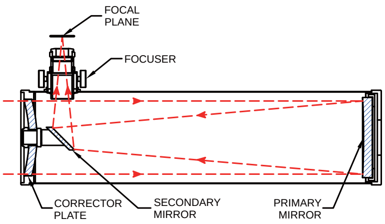


Schmidt-Newtonian

Schmidt-Newtonians are catadioptric telescopes that combine the optical advantages of both the Schmidt cameras and the Newtonian reflectors

Advantages:
Form images with less coma than Newtonian Reflectors of the same focal ratio;
Adequate for astrophotography or CCD imaging

Disadvantages:
The corrector plate at the top of the telescopes can collect dew;
Need periodic collimation



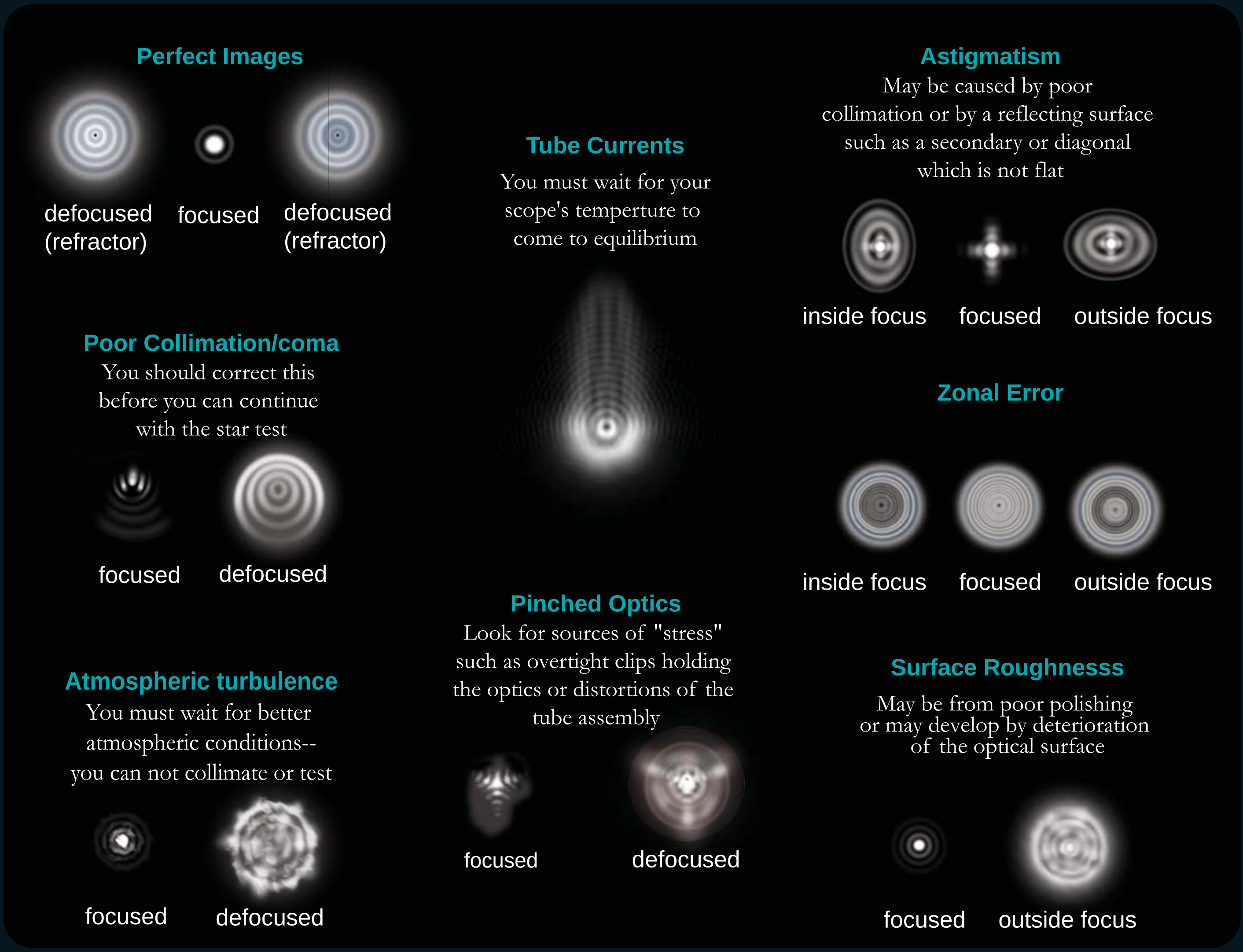
Maksutov-Newtonian

Maksutov-Newtonians use both mirrors and lenses to bring light into focus. Like Maksutov-Cassegrains, they use a concave meniscus correcting lens to eliminate the spherical aberration caused by the primary mirror

Advantages:
Wide and flat filed of view;
Provide sharp and high contrast images;
Provide high magnifications, good for planetary observing

Disadvantages:
Long time to cool down;
Heavy

STAR TESTING



Star testing is a very sensitive technique for checking telescope optics. It is easily performed, but requires careful examination to reach a correct interpretation. When a point source is viewed through a telescope, many optical aberrations can be determined by carefully inspecting the patterns of the diffraction images. The telescope is focussed at a very high magnification, if possible at least 10x per cm of aperture. A good quality eyepiece is used but it is best not to use a Barlow lens since it might introduce its own aberrations. The patterns are then observed both in focus and very slightly inside and outside of the focal point. In a perfect diffraction image, the focussed pattern has a sharp, bright Airy disk, surrounded by increasingly faint concentric circles, and what is more important, the patterns at similar points inside and outside of focus, are round and match each other exactly. The perfect out-of-focus image for a refractor is a series of alternating light and dark,concentric circles, while that of a centrally obstructed telescope shows a dark central shadow. Specific problems can be determined from both the overall shape of a diffraction pattern and by comparison of the pattern differences between the inside and outside focus images.

The star test is usually carried out at night using a bright star but it can be done in daylight using an artificial star, such as the reflection off of a Christmas tree ornament placed at some distance away. Before trying to identify aberrations, the telescope must be carefully collimated, and its temperature must be allowed to come to equilibrium with the surrounding air, to avoid tube currents. Testing must only be done when atmospheric turbulence is minimal so that the results are not masked. For the same reason it should not be done while sighting over buildings or parking lots where rising columns of air can interfere.

Some of the patterns will indicate things that you should be able to correct. For example, severe atmospheric turbulence means that you should try another night, and the presence of tube currents means that you should be patient and wait a bit longer for your scope's temperature to come to equilibrium. Poor collimation of a reflector, or of a new Synta Scope refractor model which has an adjustable objective-lens cell, means that you should get out your tools. Similarly, coma may be caused by poor collimation. However, if some coma still exists around the edges of the field after collimating, its effects should not be seen at the field's centre. Any one of several "pinched optics" patterns means that you should check your system for sources of stress on the optics, such as collimation screws which have been over tightened, tube-ring clamps which are too tight, and so on. Finally, astigmatism can have many causes, but two of the most common are poor collimation and a secondary mirror or a diagonal mirror which is not perfectly flat. Some aberrations result from poor shaping and polishing during the mirror-making process and cannot be readily corrected by the user. These include mirror over-correction and under-correction, astigmatism, edge defects, zonal defects and rough surfaces.

An excellent, advanced reference, for interpreting the results from this technique, is "Star Testing Astronomical Telescopes" by Harold Richard Suiter, (Willmann-Bell, Inc., Richmond, VA, 1994).

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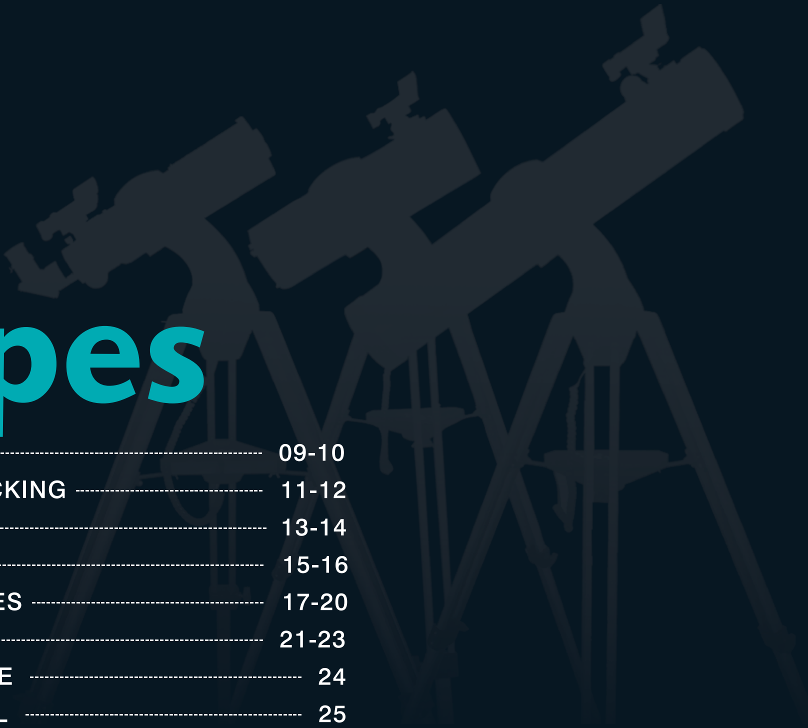

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*MADE-TO-ORDER:These telescopes are available for special quantity order only. Please contact a Synta sales representative for detailed specifications and minimum quantities.

New Products

AZ SERIES

The highly affordable Sky-Watcher AZ Series of telescopes allow you to take your first steps into the fascinating world of astronomy. They are supplied with good levels of equipment for simple observations. Although similar externally to many other telescopes on the market, these telescopes are supplied with superior 1.25" eyepieces and accessories (not 0.96" or hybrid 1.25") and moreover, the eyepieces have been specially selected to give a much more useful and practical range of magnifications to increase your viewing experience.

BK707AZ2

BK909AZ3

MODEL	BK707AZ2	BK909AZ3
Optical Design	Achromatic Refractor	Achromatic Refractor
Clear Aperture	70mm	90mm
Focal Length; F/Ratio	700mm; f/10	900mm; f/10
Maximum Practical Power	140x	180x
Limiting Stellar Magnitude	11.3	11.9
Resolving Power	1.71 arc sec	1.33 arc sec
Eyepiece Holder Diameter	1.25"	1.25"
Tube Dimension (D x L); Weight	80mm x 710mm	105mm x 880mm; 2.07kg
Eyepiece	SUPER10 & SUPER25	SUPER10 & SUPER25
Finder Scope	6x24	6x30
Mount	AZ2	AZ3
Tripod; Adjustable Length	Aluminum; 650mm-1200mm	Aluminum; 700mm-1250mm

AZ SERIES - EASY TYPE

BK1206AZ3

BK1025AZ3

MODEL	BK1025AZ3	BK1206AZ3
Optical Design	Achromatic Refractor	Achromatic Refractor
Clear Aperture	102mm	120mm
Focal Length; F/Ratio	500mm; f/4.9	600mm; f/5
Maximum Practical Power	204x	240x
Limiting Stellar Magnitude	12.1	12.5
Resolving Power	1.18 arc sec	1 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L); Weight	116mm x 530mm; 2.61kg	149mm x 660mm; 4.13kg
Eyepiece	SUPER10 & SUPER25	SUPER10 & SUPER25
Finder Scope	Red Dot Finder	Red Dot Finder
Mount	AZ3	AZ3
Tripod; Adjustable Length	Aluminum; 700mm-1250mm	Aluminum; 700mm-1250mm
MOQ (pcs)	10	10

AZ GOTO & AUTO-TRACKING

The Auto-Tracking telescope is an evolutionary alt-azimuth mount that allows automatic tracking of celestial objects without complicated add-ons. It can be used not only for astronomy but for terrestrial applications as well. It is very simple and easy to use. Highly recommended for the first-time buyers.

Optional Go-To Capability

The Sky-Watcher Auto-Tracking telescope is also available with the computerized Go-To functions. With the AZ SynScan hand control, you point your telescope at a specific object, or even tour the night sky at the touch of a button!! The user-friendly menu system allows automatic slewing to over 42,900+ objects. Telescope OTA is attached via a standard Sky-Watcher dovetail bar fitting.

The hand control is upgradable to SynScan Tour

MODEL	BK707AZGT/Auto-Tracking	BK1025AZGT/Auto-Tracking	BKP1145AZGT/Auto-Tracking
Optical Design	Achromatic Refractor	Achromatic Refractor	Parabolic Newtonian Reflector
Clear Aperture	70mm	102mm	114mm
Focal Length; F/Ratio	700mm; f/10	500mm; f/4.9	500mm; f/4.4
Maximum Practical Power	140x	204x	228x
Limiting Stellar Magnitude	11.3	12.1	12.4
Resolving Power	1.71 arc sec	1.18 arc sec	1.05 arc sec
Eyepiece Holder Diameter	1.25"	2"(With a 1.25" adapter)	1.25"
Tube Dimension (D x L)	80mm x 710mm	116mm x 530mm; 2.61kg	150mm x 410mm; 2.2kg
Eyepiece	SUPER10 & SUPER20	SUPER10 & SUPER20	SUPER10 & SUPER25
Finder Scope	Red Dot Finder	6x30	6x24
Mount	AZ 80 GT	AZ 80 GT	AZ 114 GT
Tripod; Adjustable Length	Aluminum; 650mm-1200mm	Aluminum; 650mm-1200mm	Steel; 630mm-1150mm
Hand Control	AZ SynScan (GoTo) / Auto-Tracking	AZ SynScan (GoTo) / Auto-Tracking	AZ SynScan (GoTo) / Auto-Tracking

AZ SERIES - AZ GOTO/AUTO-TRACKING

The hand control is upgradable to SynScan Tour

BKP130650AZGT ***(shown)***
Auto-Tracking BKP130650

BKMAK102AZGT ***(shown)***
Auto-Tracking BKMAK102

contains SCHOTT optical glass

BKMAK127AZGT ***(shown)***
Auto-Tracking BKMAK127

MODEL	BKP130650AZGT/Auto-Tracking	BKMAK102AZGT/Auto-Tracking	BKMAK127AZGT/Auto-Tracking
Optical Design	Parabolic Newtonian Reflector	Maksutov-Cassegrain	Maksutov-Cassegrain
Clear Aperture	130mm	102mm	127mm
Focal Length; F/Ratio	650mm; f/5	1300mm; f/12.8	1500mm; f/11.8
Maximum Practical Power	260x	204x	254x
Limiting Stellar Magnitude	12.7	12.1	12.6
Resolving Power	0.92 arc sec	1.18 arc sec	0.94 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)	1.25"	1.25" / 2"(With a 1.25" adapter)
Tube Dimension (D x L)	160mm x 615mm; 3.66kg	121mm x 320mm; 1.94kg	143mm x 370mm; 3.3kg
Eyepiece	SUPER10 & SUPER25	SUPER10 & SUPER25	SUPER10 & SUPER25
Finder Scope	6x30	6x30	6x30
Mount	AZ 114 GT	AZ 114 GT	AZ 114 GT
Tripod; Adjustable Length	Steel; 630mm-1150mm	Steel; 630mm-1150mm	Steel; 630mm-1150mm
Hand Control	AZ SynScan (GoTo) / Auto-Tracking	AZ SynScan (GoTo) / Auto-Tracking	AZ SynScan (GoTo) / Auto-Tracking

EQ1-EQ2

The highly affordable Sky-Watcher Equatorial easy type series of telescopes are of excellent quality and versatility. Many of the reflector models feature shorter, more compact telescope tube lengths resulting in lighter-weight telescopes of excellent convenience and portability. They are a particularly good choice of instrument for keen beginners to astronomy, wanting larger aperture and increased performance at a relatively low cost.

Paraboloidal Mirror

Reflecting telescopes with spherical mirrors often have a defect called "spherical aberration." Light rays from the perimeter of the spherical mirror do not focus to the same point as rays from the centre, resulting in images with less sharpness and detail. This problem is not critical for smaller Newtonians. For larger Newtonians, the spherical surface of the mirror is altered during polishing to bring the light rays onto a common focal plane. By "parabolizing" the mirror, the images become sharp and detailed, and free of spherical aberration effects.

MODEL	BKP1145EQ1	BKMAK80EQ1	BKMAK90EQ1
Optical Design	Parabolic Newtonian Reflector	Maksutov-Cassegrain	Maksutov-Cassegrain
Clear Aperture	114mm	80mm	90mm
Focal Length; F/Ratio	500mm; f/4.4	1000mm; f/12.5	1250mm; f/13.9
Maximum Practical Power	228x	160x	180x
Limiting Stellar Magnitude	12.4	11.6	11.9
Resolving Power	1.05 arc sec	1.5 arc sec	1.33 arc sec
Eyepiece Holder Diameter	1.25"	1.25"	1.25"
Tube Dimension (D x L)	150mm x 410mm; 2.2kg	95mm x 330mm; 1.01kg	100mm x 240mm; 1.37kg
Eyepiece	SUPER10 & SUPER25	PL17; SUPER 3.6	SUPER10 & SUPER25
Finder Scope	Red Dot Finder	Red Dot Finder	Red Dot Finder
Mount	EQ1	EQ1	EQ1
Tripod; Adjustable Length	Aluminum; 650mm-1200mm	Aluminum; 650mm-1200mm	Aluminum; 650mm-1200mm

EQUATORIAL SERIES - EASY TYPE

BK1149EQ2

BKP130650EQ2

BKMAK102EQ2

MODEL	BK1149EQ2	BKP130650EQ2	BKMAK102EQ2
Optical Design	Newtonian Reflector	Parabolic Newtonian Reflector	Maksutov-Cassegrain
Clear Aperture	114mm	130mm	102mm
Focal Length; F/Ratio	900mm; f/7.9	650mm; f/5	1300mm; f/12.8
Maximum Practical Power	228x	260x	204x
Limiting Stellar Magnitude	12.4	12.7	12.1
Resolving Power	1.05 arc sec	0.92 arc sec	1.18 arc sec
Eyepiece Holder Diameter	1.25"	1.25" / 2"(With a 1.25" adapter)	1.25"
Tube Dimension (D x L)	145mm x 900mm; 2.51kg	160mm x 615mm; 3.66kg	121mm x 320mm; 1.94kg
Eyepiece	SUPER10 & SUPER25	SUPER10 & SUPER25	SUPER10 & SUPER25
Finder Scope	5x	Red Dot Finder	Red Dot Finder
Mount	EQ2	EQ2	EQ2
Tripod; Adjustable Length	Aluminum; 700mm-1250mm	Aluminum; 700mm-1250mm	Aluminum; 700mm-1250mm

EQ3 & EQ5

The Sky-Watcher Equatorial EQ3&EQ5 series offer premium optical performance for the discriminating amateur astronomer. Reflecting telescopes offer tremendous light gathering capability combined with portability. They are capable of discerning remarkably fine detail in solar-system and deep-space objects. The large aperture allows you to capture faint galaxies, nebulae, and star clusters they way you want to see them. Refractors are coveted for their superb contrast, high-definition, and coal-black sky background that make stars appear like diamonds imbedded in black velvet. Sky-Watcher refractors utilize the most modern optical glasses and fabricating techniques to deliver the ultimate in high-fidelity astronomical imaging. Subtle details pop as never seen before in telescopes of lesser optical capability.

Sky-Watcher's attention to detail and striving for perfection ensures the amateur astronomer peak performance and a great experience each and every time a Sky-Watcher telescope is taken into the field. We know the amateur astronomer has very high expectations regarding astronomical equipment purchases. Sky-Watcher has been delivering consistent satisfaction for decades.

MODEL	BK1021EQ3(Steel Tripod)	BKP150750EQ3(Steel Tripod)	BKP1501EQ3 (Steel Tripod)
Optical Design	Achromatic Refractor	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector
Clear Aperture	102mm	150mm	150mm
Focal Length; F/Ratio	1000mm; f/9.8	750mm; f/5	1000mm; f/6.7
Maximum Practical Power	204x	300x	300x
Limiting Stellar Magnitude	12.1	13	13
Resolving Power	1.18 arc sec	0.8 arc sec	0.8 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	1.25" / 2"(With a 1.25" adapter)	1.25"
Tube Dimension (D x L)	116mm x 1010mm; 3.76kg	182mm x 690mm; 5.59kg	183mm x 930mm; 6.11kg
Eyepiece	SP10 & SP26	SUPER10 & SUPER25	SUPER10 & SUPER25
Finder Scope	6x30	6x30	6x30
Mount	EQ3	EQ3	EQ3
Tripod; Adjustable Length	Steel; 840mm-1170mm Aluminum; 700mm-1250mm (Optional)	Steel; 840mm-1170mm Aluminum; 700mm-1250mm (Optional)	Steel; 840mm-1170mm Aluminum; 700mm-1250mm (Optional)

EQUATORIAL SERIES - EQ3&EQ5

BKMAK127EQ3

BK1201EQ5

BKP2001EQ5

MODEL	BKMAK127EQ3(Steel Tripod)	BK1201EQ5	BKP2001EQ5
Optical Design	Maksutov-Cassegrain	Achromatic Refractor	Parabolic Newtonian Reflector
Clear Aperture	127mm	120mm	200mm
Focal Length; F/Ratio	1500mm; f/11.8	1000mm; f/8.3	1000mm; f/5
Maximum Practical Power	254x	240x	400x
Limiting Stellar Magnitude	12.6	12.5	13.6
Resolving Power	0.94 arc sec	1 arc sec	0.6 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	143mm x 370mm; 3.3kg	149mm x 1000mm; 4.87kg	240mm x 900mm; 9.1kg
Eyepiece	PL10 & PL26	SP10 & SP26	SP10 & SP26
Finder Scope	Red Dot Finder	6x30	8x50
Mount	EQ3	EQ5	EQ5
Tripod; Adjustable Length	Steel; 840mm-1170mm Aluminum; 700mm-1250mm (Optional)	Steel; 840mm-1170mm	Steel; 840mm-1170mm

GOTO SERIES

Sky-Watcher Equatorial GoTo Series telescopes are made of the highest grade materials available. The high standard set in material choice is also set in production. No effort is spared to reach optimal optical quality. The primary mirrors of the reflectors are fabricated to the highest standards of optical smoothness and correction, ensuring diffraction-limited premium optical performance that is second to none worldwide. Each lens set in a refractor is individually pitch-polished, and hand figured by a master optician ensuring diffraction-limited premium optical performance that is second to none worldwide. All lenses are uniformly air-spaced.

Specially designed to support larger telescope tubes, the high-precision, extra silent Sky-Watcher SynScan GoTo mounts allow pointing the telescope to a specific object at the touch of a button. They are designed with the novice user in mind. With the user friendly pushbutton hand control, locating and viewing the treasures of the night sky becomes as easy as a walk in the park. The SynScan mounts also comes with features that advanced astronomers can appreciate:

• Positioning Accuracy up to 1 arc minute. Accuracy enhanced by software collimation error (mount mechanical error) compensation.
• Stepper motors with 1.8° /step angle, 64 micro steps driven for EQ6pro and HEQ5 pro, 32 micro steps driver for EQ5pro and EQ3pro.
• Slewing speed up to 3.4°/sec (800X).
• Auto Guider Interface for astro-photography.
• Guiding speed selectable from 0.125X, 0.25X, 0.50X, 0.75X, or 1X.
• Object database containing complete Messier, NGC, and IC catalogues.

The hand control is upgradable to SynScan Tour

• Minimal vibration for steady long-exposure photography.
• Periodic Error Correction.
• PC compatibility.
• Upgradeable hand control via internet download.

EQUATORIAL SERIES - GOTO SERIES

The hand control is upgradable to SynScan Tour

BK15012EQ5 SYNSCAN

BKP2001EQ5 SYNSCAN

BKP2001HEQ5 SYNSCAN

BKED80HEQ5 SYNSCAN

MODEL	BK15012EQ5 SYNSCAN	BKP2001EQ5 SYNSCAN	BKP2001HEQ5 SYNSCAN	BKED80HEQ5 SYNSCAN
Optical Design	Achromatic Refractor	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Apochromatic Refractor
Clear Aperture	150mm	200mm	200mm	80mm
Focal Length; F/Ratio	1200mm; f/8	1000mm; f/5	1000mm; f/5	600mm; f/7.5
Maximum Practical Power	300x	400x	400x	160x
Limiting Stellar Magnitude	13	13.6	13.6	11.6
Resolving Power	0.8 arc sec	0.6 arc sec	0.6 arc sec	1.5 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	174mm x 1270mm; 8.02kg	240mm x 900mm; 9.1kg	240mm x 900mm; 9.1kg	116mm x 580mm; 3.21kg
Eyepiece	SP10 & SP26	SUPER10 & SUPER25	SUPER10 & SUPER25	LE5T & LE20T
Finder Scope	8x50	8x50	8x50	8x50
Mount	EQ5 SynScan	EQ5 SynScan	HEQ5 SynScan	HEQ5 SynScan
Tripod; Adjustable Length	Steel; 840mm-1170mm	Steel; 840mm-1170mm	Steel; 840mm-1170mm	Steel; 840mm-1170mm
Hand Control	EQ SYNSCAN	EQ SYNSCAN	EQ SYNSCAN	EQ SYNSCAN

EQUATORIAL SERIES - GOTO SERIES

The hand control is upgradable to SynScan Tour

BKED100HEQ5 SYNSCAN

BKED120HEQ5 SYNSCAN

BKMAK180HEQ5 SYNSCAN

MODEL	BKED100HEQ5 SYNSCAN	BKED120HEQ5 SYNSCAN	BKMAK180HEQ5 SYNSCAN
Optical Design	Apochromatic Refractor	Apochromatic Refractor	Maksutov-Cassegrain
Clear Aperture	100mm	120mm	180mm
Focal Length; F/Ratio	900mm; f/9	900mm; f/7.5	1800mm; f/10
Maximum Practical Power	200x	240x	360x
Limiting Stellar Magnitude	12.1	12.5	13.4
Resolving Power	1.2 arc sec	1 arc sec	0.67 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	1.25" / 2"(With a 1.25" adapter)
Tube Dimension (D x L)	118mm x 875mm; 3.8kg	143mm x 796mm; 4.93kg	220mm x 560mm; 7.45kg
Eyepiece	LE5T & LE20T	LE5T & LE20T	LE9T & LE20T
Finder Scope	8x50	8x50	8x50
Mount	HEQ5 SynScan	HEQ5 SynScan	HEQ5 SynScan
Tripod; Adjustable Length	Steel; 840mm-1170mm	Steel; 840mm-1170mm	Steel; 840mm-1170mm
Hand Control	EQ SYNSCAN	EQ SYNSCAN	EQ SYNSCAN

EQUATORIAL SERIES - GOTO SERIES

The hand control is upgradable to SynScan Tour

BK15012EQ6 SYNSCAN

BKP25012EQ6 SYNSCAN

BKP300NEQ6 SYNSCAN

MODEL	BK15012EQ6 SYNSCAN	BKP25012EQ6 SYNSCAN	BKP300NEQ6 SYNSCAN
Optical Design	Achromatic Refractor	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector
Clear Aperture	150mm	250mm	300mm
Focal Length; F/Ratio	1200mm; f/8	1200mm; f/4.8	1500mm; f/5
Maximum Practical Power	300x	500x	600x
Limiting Stellar Magnitude	13	14.1	14.5
Resolving Power	0.8 arc sec	0.48 arc sec	0.4 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	174mm x 1270mm; 8.02kg	288mm x 1120mm; 14.38kg	355mm x 1450mm;
Eyepiece	SP10 & SP26	SP10 & SP26	PL10 & PL26
Finder Scope	8x50	8x50	8x50
Mount	EQ6 SynScan	EQ6 SynScan	NEQ6 SynScan
Tripod; Adjustable Length	Steel; 750mm-1270mm	Steel; 750mm-1270mm	Steel; 750mm-1270mm
Hand Control	EQ SYNSCAN	EQ SYNSCAN	EQ SYNSCAN

NEW!

Dobsonian

A portable astronomical observatory is born!

Patent No.
US6972902
US7228253
EP1640760(BI)
DE602005000530(T2)
AT353145(T)
M332198
ZL200720181566.4
ZL200580034756.7

Patent Application No.
US12/115,683
US096144920
200710163695.5
EP08014012.2
PCT/CA 2005/001275
EP2005777672.6

The exciting new Sky-Watcher Go-To Dobsonian series is precision engineered instrument that will allow you to easily find and enjoy viewing night sky treasures, such as Planets, Nebulae, Star Clusters, Galaxies and much more. With its patented collapsible tube design, these Dobsonians are truly the ultimate in portability and performance.

The elegant truss tube design was carefully engineered to combine ease of use, extreme portability and consistent performance in an affordable package. Unlike other truss tube designs, the SkyWatcher Collapsible Dobsonian does not need to be disassembled between uses. It transports as two compact pieces that can be assembled and ready to use in just seconds! It is easy to collimate once set up, and it holds its collimation throughout the evening! The patented Tension Control Handle allows users to add or reduce tension, thereby increasing or decreasing the friction between the optical tube and the sideboards.

The SynScanTM AZ hand control allows you point your telescope at a specific object, or even tour the night sky at the touch of a button!! The user-friendly menu system allows automatic slewing to over 42,900+ objects. Even an inexperienced astronomer can master its variety of features in a few observing sessions. The patented dual encoder design allows the telescope to be moved manually whenever the user wishes - but with no need for re-alignment!
The Sky-Watcher Go-To Dobsonian Series combines the convenience and affordability of the traditional Dobsonian with the convenience of a computerized Go-To telescope.

SynScanTM AZ hand control
Specifications:
Power Supply: 10 to 15 V DC 1Amp, 2.1mm Plug (Center positive)
Motor type: DC Servo Motors,
Resolution: Motor encoder: 1,620,000 counts per revolution, Main axis encoder: 11,748 counts per revolution
Slew speeds: 1.0X, 2.0X, 8X, 16X, 32X, 200X, 400X, 600X, 800X, 1000X
Tracking Rates: Sidereal, Lunar, Solar
Tracking Mode: Dual Axes Tracking
Alignment Method: Brightest-Star Alignment, Two-Star Alignment
Database: 25 user defined objects.
Complete M, NGC and IC catalog, partial SAO catalogues, total 42,900 objects
Go-To Pointing Accuracy: Up to 5 arc min

DOB GoTo Upgraded Kits

We are very excited to announce that with the DOB GoTo upgraded kits (the round base and mounting platform), all Sky-Watcher Dobsonians are able to upgrade to realize Go-To function.

Available Sizes: 8", 10" , 12"

The hand control is upgradable to SynScan Tour

DOB GOTO

A portable astronomical observatory is born!

The patented elegant truss tube Dob has brought you extreme portability and consistent performance in an affordable package

Can be assembled and disassembled in just seconds!

Available Sizes: 8", 10" , 12", 14" , 16"

DOB GOTO

DOB GOTO 8

DOB GOTO 10

DOB GOTO 12

NEW!

DOB GOTO 14 (Dual-speed)

NEW!

DOB GOTO 16 (Dual-speed)

The hand control is upgradable to SynScan Tour

MODEL	DOB GOTO 8	DOB GOTO 10	DOB GOTO 12	DOB GOTO 14 (Dual-speed)	DOB GOTO 16 (Dual-speed)
Optical Design	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector
Clear Aperture	203mm	254mm	305mm	355mm	406mm
Focal Length; F/Ratio	1200mm; f/5.9	1200mm; f/4.7	1500mm; f/4.9	1600mm; f/4.5	1800mm; f/4.4
Maximum Practical Power	406x	508x	610x	710x	812x
Limiting Stellar Magnitude	13.6	14.1	14.5	14.9	15.1
Resolving Power	0.59 arc sec	0.47 arc sec	0.39 arc sec	0.34 arc sec	0.3 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	238mm x (835mm-1115mm); 11kg	380mm x (800mm-1120mm); 15kg	450mm x (920mm-1400mm); 21kg	500mm x (970mm-1510mm);23.5kg	540mm x (1071mm-1685mm); 30.5kg
Eyepiece	SP10 & SP26	SP10 & SP26	SP10 & SP26	SP10 & SP26	SP10 & SP26
Finder Scope	8x50	8x50	8x50	8x50	8x50
Mount	Collapsible DOB8"(S)	Collapsible DOB10"(S)	Collapsible DOB12"(S)	Collapsible DOB14"(S)	Collapsible DOB16"(S)
Tripod; Adjustable Length	\	\	\	\	\
Hand Control	AZ SynScan	AZ SynScan	AZ SynScan	AZ SynScan	AZ SynScan

COLLAPSIBLE DOBSONIANS

MADE-TO-ORDER

Tabletop

All collapsible truss-tube Dobsonian designs require no reassembly – the ultimate convenience!

Sky-Watcher is pleased to introduce the all-new Collapsible Dobsonian complete with Crayford focuser – the ultimate in large aperture portability and performance. This elegant truss tube design was carefully engineered to combine ease of use, extreme portability and consistent performance in an affordable package. Unlike other truss tube designs, the Sky-Watcher Collapsible Dobsonian does not need to be disassembled between uses. It transports as two compact pieces that can be assembled and ready to use in just seconds! It is easy to collimate once set up, and it holds its collimation throughout the evening!

DOB 8(S)

DOB 10(S)

DOB 12(S)

DOB 14(S)

DOB 16(S)

MODEL	DOB 8(S)	DOB 10(S)	DOB 12(S)	DOB 14(S)	DOB 16(S)
Optical Design	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector
Clear Aperture	203mm	254mm	305mm	355mm	406mm
Focal Length; F/Ratio	1200mm; f/5.9	1200mm; f/4.7	1500mm; f/4.9	1600mm; f/4.5	1800mm; f/4.4
Maximum Practical Power	406x	508x	610x	710x	812x
Limiting Stellar Magnitude	13.6	14.1	14.5	14.9	15.1
Resolving Power	0.59 arc sec	0.47 arc sec	0.39 arc sec	0.34 arc sec	0.3 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	238mm x (835mm-1115mm); 11kg	380mm x (800mm-1120mm); 15kg	450mm x (920mm-1400mm); 21kg	500mm x (970mm-1510mm); 23.5kg	540mm x (1071mm-1685mm); 30.5kg
Eyepiece	SP10 & SP26	SP10 & SP26	SP10 & SP26	SP10 & SP26	SP10 & SP26
Finder Scope	8x50	8x50	8x50	8x50	8x50
Mount	Collapsible DOB8"(S)	Collapsible DOB10"(S)	Collapsible DOB12"(S)	Collapsible DOB14"(S)	Collapsible DOB16"(S)
Tripod; Adjustable Length	\	\	\	\	\

TRADITIONAL DOBSONIANS

The Dobsonian mounted telescope is popular among amateur astronomers and telescope makers because of its simplicity. The Sky-Watcher Dobsonians' patented Tension Control Handle (US Patent No. 6,940,642) allows users to add or reduce tension, thereby increasing or decreasing the friction between the optical tube and the sideboard of the mount. By providing such a tension adjuster, the telescope does not need to be balanced in order to stay in position. The tension adjuster can be tightened such that the optical tube can stay in a position but can still be moved when prompted to adjust the position of the optical tube. Alternatively, the tension adjuster can be completely tightened to lock the optical tube in position.

DOB 8

DOB 10

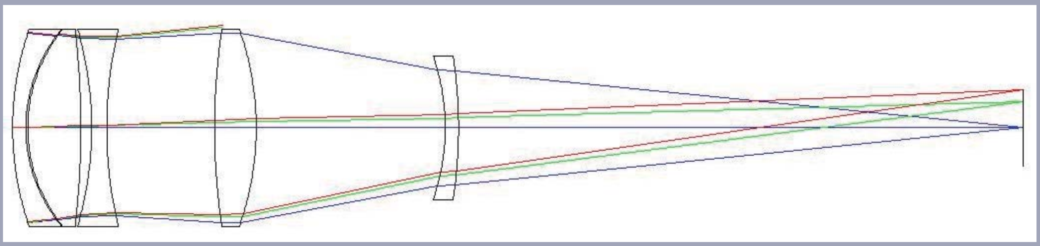
DOB 12

MODEL	DOB 8	DOB 10	DOB 12
Optical Design	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector	Parabolic Newtonian Reflector
Clear Aperture	203mm	254mm	305mm
Focal Length; F/Ratio	1200mm; f/5.9	1200mm; f/4.7	1500mm; f/4.9
Maximum Practical Power	406x	508x	610x
Limiting Stellar Magnitude	13.6	14.1	14.5
Resolving Power	0.59 arc sec	0.47 arc sec	0.39 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)	2"(With a 1.25" adapter)
Tube Dimension (D x L)	238mm x (835mm-1115mm); 11kg	380mm x (800mm-1120mm); 15kg	450mm x (920mm-1400mm); 21kg
Eyepiece	SP10 & SP26	SP10 & SP26	SP10 & SP26
Finder Scope	8x50	8x50	8x50
Mount	Dobsonian 8"	Dobsonian 10"	Dobsonian 12"
Tripod; Adjustable Length	\	\	\

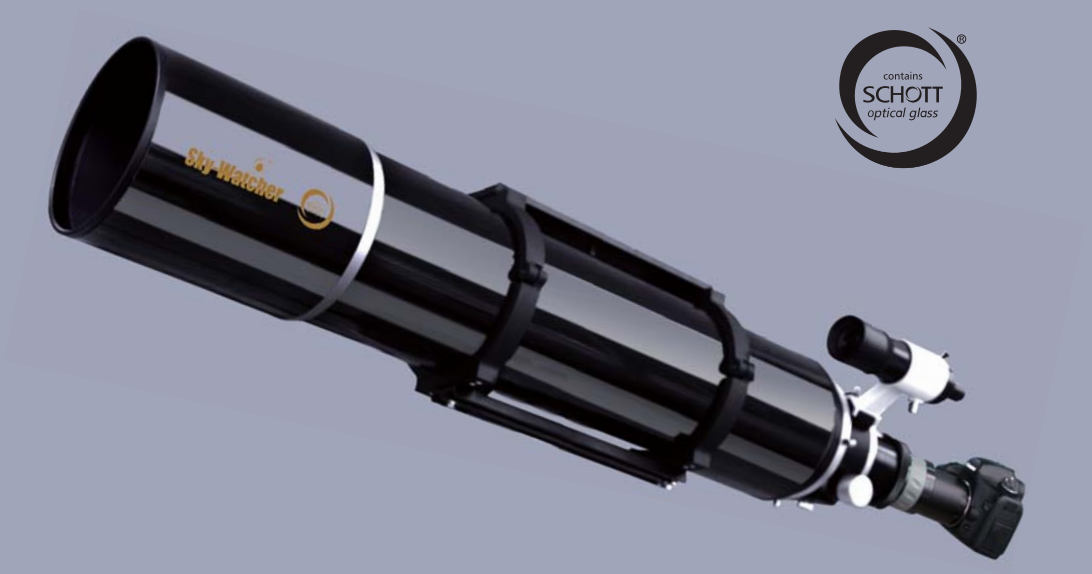
WIDEPHOTO REFRACTORS

5-element ED100

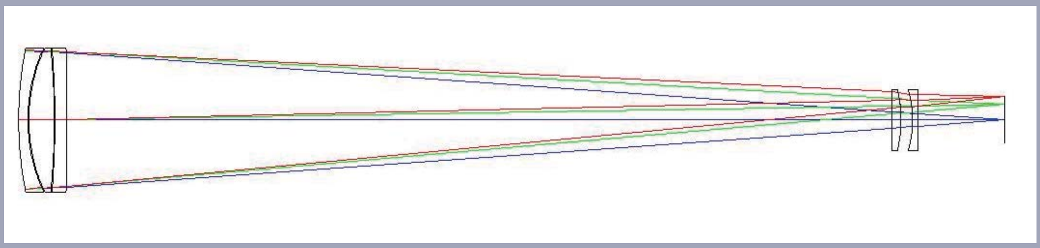
The 5-element ED100 refractors employ five lenses, two of them are made of ED glass. The idea of this optical design comes from Petzval Theory (use two doublet lenses to reduce spherical aberration and astigmatism). They have a fast focal ratio of f/5. The lens are separated and the wide spaces between the lenses will be propitious to eliminate the distortion and astigmatism, so to get a flat field and effective color correction and reduce the spherical aberration to the minimum. The optical system design is as below:



5-element ED120 & 5-element ED150



The 5-element ED120 and 5-element ED150 refractors are similar to the triplet ED120 and triplet ED150 refractors, but they have a doublet field flattener to get a flat field and minimize aberration and distortion. Their M48 adapter for cameras assure larger clear aperture than M42 adapter to reduce halation as much as possible. Connect the triplet and doublet field flattener with a high precision thin thread to keep the optical axis perpendicular to the image. Their optical system design is as below:



Main Features:

Premium optical materials

Short focal length and full frame corrected focal plane

Excellent field flatness

Precision linear power focuser is standard

Metallic high-transmission lens coatings

Light-baffled optical systems

Telescope tube attachment hardware

*** For detailed specifications, please refer to page 29.**

WIDEPHOTO REFLECTORS

NEW!

D=200mm
F=800mm

D=250mm
F=1000mm

D=300mm
F=1200mm

Features:

Fast focal ratio of f/4

High quality astrophotography with short exposure times

Best for photography but also a fine visual scope

Includes 2" dual-speed linear power focuser which will not shift with heavy equipment attached

Smooth, precise focusing without vibration

Superior camera support, even with mid-size mount

The optical tubes of 200mm f/4 and 250mm f/4 reflectors are made of carbon fiber. Carbon fiber tube is strong and lightweight and has much better thermal stability comparing to an aluminum tube. This becomes especially important for astro-photographers dealing with long exposure astro-photography. Imaging telescope made of less thermally stable material may deviate from its optimal focus after long time exposure. With telescopes that are constructed with carbon fiber tube, it can remain in focus for a longer period of time and long exposure images will stay clear and in-focus.

*** For detailed specifications, please refer to page 29.**

NEW!

2” Linear Power Focuser

This linear power focuser utilizes 4 precision ball bearings to support the drawtube and provide great stability and no image shift while supporting a heavy eyepiece or a camera. Moving the drawtube by the roller rather than a rack and pinion set-up found in lower-cost focusers ensures exceptionally smooth operations, great feel and precise adjustability. The dual speed feature has a second focus knob that has a 10 to 1 speed reduction to provide the super-fine adjustment even the most demanding users can appreciate.

WIDEPHOTO REFLECTORS

CFP2008 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	200mm
Focal Length; F/Ratio	800mm; f/4
Maximum Practical Power	410x
Limiting Stellar Magnitude	13.6
Resolving Power	0.6 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	285mmx920mm; 1.09kg
Eyepiece	PL25 & LE35T
Finder Scope	8x50

CFP2501 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	250mm
Focal Length; F/Ratio	1000mm; f/4
Maximum Practical Power	508x
Limiting Stellar Magnitude	14.1
Resolving Power	0.47 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	\
Eyepiece	SP10 & SP25
Finder Scope	8x50

BKP30012 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	300mm
Focal Length; F/Ratio	1200mm; f/4
Maximum Practical Power	620x
Limiting Stellar Magnitude	15
Resolving Power	0.39 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	\
Eyepiece	SP10 & SP25
Finder Scope	8x50

WIDEPHOTO REFRACTORS

contains SCHOTT® optical glass

5-ELEMENT ED100 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	100mm
Focal Length; F/Ratio	500mm; f/5
Maximum Practical Power	200x
Limiting Stellar Magnitude	12.1
Resolving Power	1.2 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	124mm x 435mm; 7kg
Eyepiece	LE28T
Finder Scope	8x50

contains SCHOTT® optical glass

5-ELEMENT ED120 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	120mm
Focal Length; F/Ratio	840mm; f/7
Maximum Practical Power	240x
Limiting Stellar Magnitude	12.5
Resolving Power	1 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	155mm x 750mm; 9kg
Eyepiece	LE28T
Finder Scope	8x50

contains SCHOTT® optical glass

5-ELEMENT ED150 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	150mm
Focal Length; F/Ratio	1050mm; f/7
Maximum Practical Power	300x
Limiting Stellar Magnitude	13
Resolving Power	0.8 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	183mm x 950mm; 11.5kg
Eyepiece	LE28T
Finder Scope	8x50

ACHROMATIC REFRACTOR

BK1021 OTA

Optical Design	Achromatic Refractor
Clear Aperture	102mm
Focal Length; F/Ratio	1000mm; f/9.8
Maximum Practical Power	204x
Limiting Stellar Magnitude	12.1
Resolving Power	1.18 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	116mm x 1010mm; 3.76kg
Eyepiece	SUPER10 & SUPER25
Finder Scope	6x30

BK1201 OTA

Optical Design	Achromatic Refractor
Clear Aperture	120mm
Focal Length; F/Ratio	1000mm; f/8.3
Maximum Practical Power	240x
Limiting Stellar Magnitude	12.5
Resolving Power	1 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	149mm x 1000mm; 4.87kg
Eyepiece	SUPER10 & SUPER25
Finder Scope	6x30

BK15012 OTA

Optical Design	Achromatic Refractor
Clear Aperture	150mm
Focal Length; F/Ratio	1200mm; f/8
Maximum Practical Power	300x
Limiting Stellar Magnitude	13
Resolving Power	0.8 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	174mm x 1270mm; 8.02kg
Eyepiece	SP10 & SP26
Finder Scope	8x50

PARABOLIC NEWTONIAN REFLECTOR

BKP1145 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	114mm
Focal Length; F/Ratio	500mm; f/4.4
Maximum Practical Power	228x
Limiting Stellar Magnitude	12.4
Resolving Power	1.05 arc sec
Eyepiece Holder Diameter	1.25"
Dimension (DxL); Weight	150mm x 410mm; 2.2kg
Eyepiece	SUPER10 & SUPER25
Finder Scope	Red Dot Finder

BKP130650 OTA (Dual-speed)

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	130mm
Focal Length; F/Ratio	650mm; f/5
Maximum Practical Power	260x
Limiting Stellar Magnitude	12.7
Resolving Power	0.92 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)
Dimension (DxL); Weight	160mm x 615mm; 3.66kg
Eyepiece	SUPER10 & SUPER25
Finder Scope	6x30

BKP150750 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	150mm
Focal Length; F/Ratio	750mm; f/5
Maximum Practical Power	300x
Limiting Stellar Magnitude	13
Resolving Power	0.8 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)
Dimension (DxL); Weight	182mm x 690mm; 5.59kg
Eyepiece	SUPER10 & SUPER25
Finder Scope	6x30

PARABOLIC NEWTONIAN REFLECTOR

BKP2001 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	200mm
Focal Length; F/Ratio	1000mm; f/5
Maximum Practical Power	400x
Limiting Stellar Magnitude	13.6
Resolving Power	0.6 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	240mm x 920mm; 8.75kg
Eyepiece	SP10 & SP26
Finder Scope	8x50

BKP25012 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	250mm
Focal Length; F/Ratio	1200mm; f/4.8
Maximum Practical Power	500x
Limiting Stellar Magnitude	14.1
Resolving Power	0.48 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	288mm x 1120mm; 14.38kg
Eyepiece	SP10 & SP26
Finder Scope	8x50

BKP300 OTA

Optical Design	Parabolic Newtonian Reflector
Clear Aperture	300mm
Focal Length; F/Ratio	1500mm; f/5
Maximum Practical Power	600x
Limiting Stellar Magnitude	14.5
Resolving Power	0.4 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	355mm x 1450mm;
Eyepiece	PL10 & PL26
Finder Scope	8x50

MAK-NEWT

contains SCHOTT optical glass®

BKMak-Newtonian DM190(D)

Optical Design	Maksutov-Newtonian
Clear Aperture	190mm
Focal Length; F/Ratio	1000mm; f/5.3
Maximum Practical Power	380x
Limiting Stellar Magnitude	13.5
Resolving Power	0.63 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	245mm x 935mm; 12.34kg
Eyepiece	\
Finder Scope	8x50

MAKSUTOV-CASSEGRAIN

BKMAK90 OTA

Optical Design	Maksutov-Cassegrain
Clear Aperture	90mm
Focal Length; F/Ratio	1250mm; f/13.9
Maximum Practical Power	180x
Limiting Stellar Magnitude	11.9
Resolving Power	1.33 arc sec
Eyepiece Holder Diameter	1.25"
Dimension (DxL); Weight	100mm x 240mm; 1.37kg
Eyepiece	SUPER10 & SUPER20
Finder Scope	Red Dot Finder

contains SCHOTT optical glass®

BKMAK127 OTAW

Optical Design	Maksutov-Cassegrain
Clear Aperture	127mm
Focal Length; F/Ratio	1500mm; f/11.8
Maximum Practical Power	254x
Limiting Stellar Magnitude	12.6
Resolving Power	0.94 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)
Dimension (DxL); Weight	143mm x 370mm; 3.3kg
Eyepiece	LE28T
Finder Scope	6x30

MAKSUTOV-CASSEGRAIN

BKMAK150 OTAW

Optical Design	Maksutov-Cassegrain
Clear Aperture	150mm
Focal Length; F/Ratio	1800mm; f/12
Maximum Practical Power	300x
Limiting Stellar Magnitude	13
Resolving Power	0.8 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)
Dimension (DxL); Weight	189mm x 447mm; 5.35kg
Eyepiece	LE28T
Finder Scope	8x50

BKMAK180 OTAW

Optical Design	Maksutov-Cassegrain
Clear Aperture	180mm
Focal Length; F/Ratio	1800mm; f/10
Maximum Practical Power	360x
Limiting Stellar Magnitude	13.4
Resolving Power	0.67 arc sec
Eyepiece Holder Diameter	1.25" / 2"(With a 1.25" adapter)
Dimension (DxL); Weight	220mm x 560mm; 7.45kg
Eyepiece	LE28T
Finder Scope	8x50

ED REFLECTOR — EQUINOX SERIES

EQUINOX ED60 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	66mm
Focal Length; F/Ratio	400mm; f/6.1
Maximum Practical Power	132x
Limiting Stellar Magnitude	11.2
Resolving Power	1.82 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	89mm x 310mm; 1.89kg
Eyepiece	\
Finder Scope	\

EQUINOX ED80 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	80mm
Focal Length; F/Ratio	500mm; f/6.3
Maximum Practical Power	160x
Limiting Stellar Magnitude	11.6
Resolving Power	1.5 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	107mm x 490mm; 2.87kg
Eyepiece	\
Finder Scope	\

EQUINOX ED100 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	100mm
Focal Length; F/Ratio	900mm; f/9
Maximum Practical Power	200x
Limiting Stellar Magnitude	12.1
Resolving Power	1.2 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	112mm x 605mm; 5.72kg
Eyepiece	\
Finder Scope	\

EQUINOX ED120 OTA

Optical Design	Apochromatic Refractor
Clear Aperture	120mm
Focal Length; F/Ratio	900mm; f/7.5
Maximum Practical Power	240x
Limiting Stellar Magnitude	12.5
Resolving Power	1 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	152mm x 800mm; 5.19kg
Eyepiece	\
Finder Scope	\

ED REFLECTOR — BLACK DAIMOND SERIES

contains SCHOTT optical glass

BKED80 OTAW

Optical Design	Apochromatic Refractor
Clear Aperture	80mm
Focal Length; F/Ratio	600mm; f/7.5
Maximum Practical Power	160x
Limiting Stellar Magnitude	11.6
Resolving Power	1.5 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	116mm x 580mm; 3.21kg
Eyepiece	LE28T
Finder Scope	8x50

contains SCHOTT optical glass

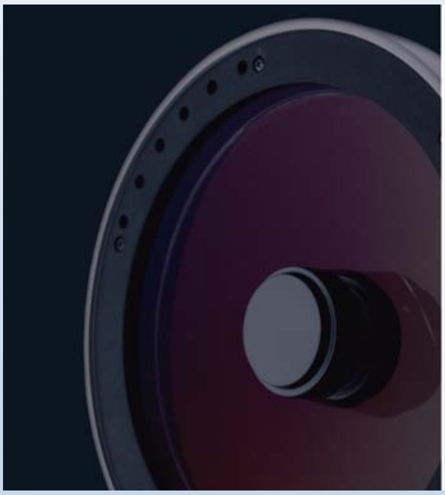
BKED100 OTAW

Optical Design	Apochromatic Refractor
Clear Aperture	100mm
Focal Length; F/Ratio	900mm; f/9
Maximum Practical Power	200x
Limiting Stellar Magnitude	12.1
Resolving Power	1.2 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	118mm x 875mm; 3.8kg
Eyepiece	LE28T
Finder Scope	8x50

contains SCHOTT optical glass

BKED120 OTAW

Optical Design	Apochromatic Refractor
Clear Aperture	120mm
Focal Length; F/Ratio	900mm; f/7.5
Maximum Practical Power	240x
Limiting Stellar Magnitude	12.5
Resolving Power	1 arc sec
Eyepiece Holder Diameter	2"(With a 1.25" adapter)
Dimension (DxL); Weight	143mm x 796mm; 4.93kg
Eyepiece	LE28T
Finder Scope	8x50



SCHOTT glass made of ideas

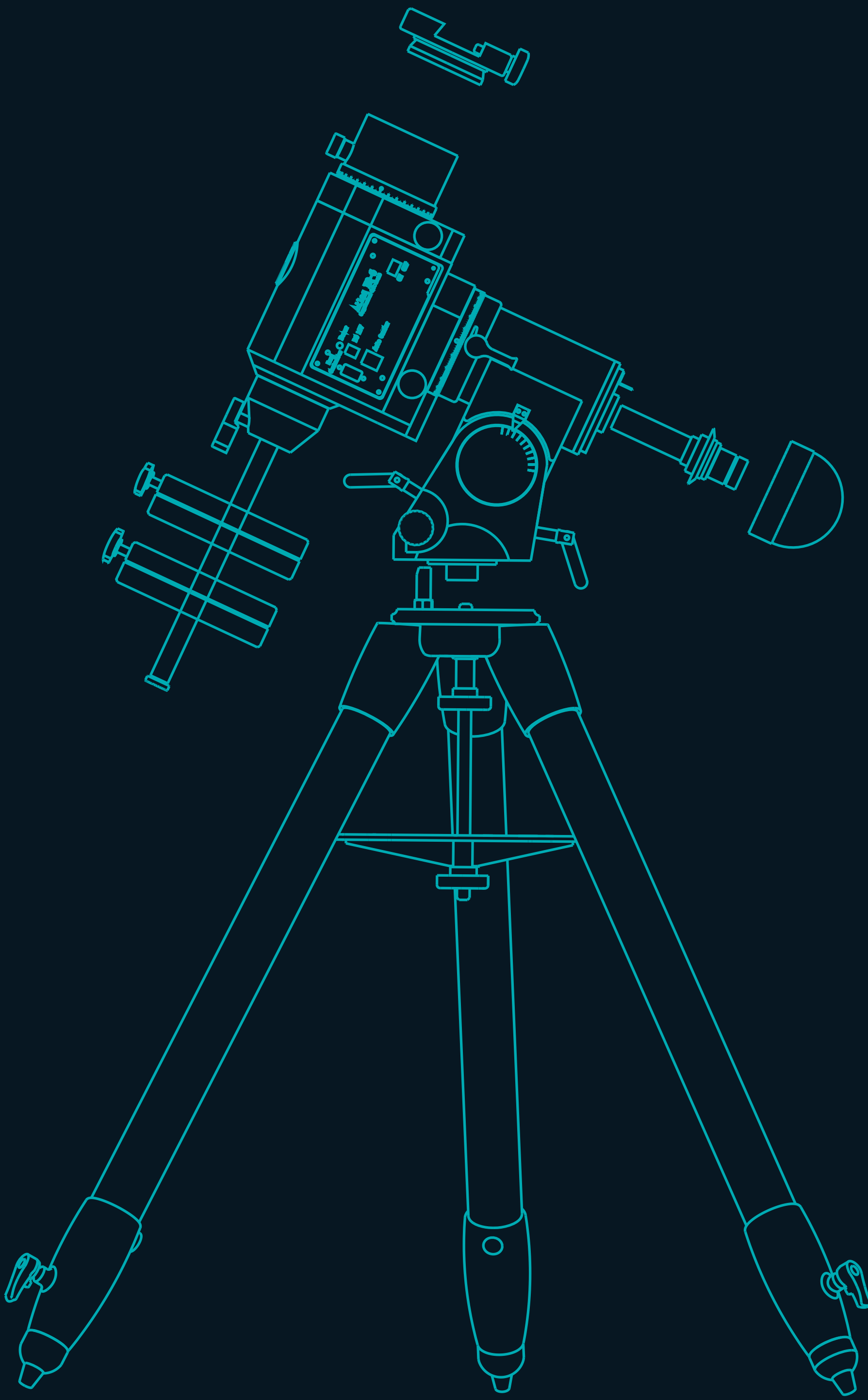
Sky-Watcher®

High quality SKY-WATCHER products represent the cooperation of Synta, a leading producer of telescopes for amateur astronomy, with the world-renowned optical glass developer and manufacturer SCHOTT.

The seamless cooperation between the leaders of two industries guarantees breathtakingly pristine celestial views for the amateur astronomers.

The Mount

Telescopes magnify everything, even very slight vibration. That’s why all the telescopes with perfect optics in the world are considered useless if they are supplied on a flimsy, wobbly mount. The mount is not only for holding the telescope steadily, but also for controlling the telescope to track the steady movement of the stars, so it has to move smoothly and precisely from object to object. There are two basic types of mounts: Alt-Azimuth and Equatorial.



Alt-Azimuth mounts are the simplest type of mount. There are two axes that allow the telescopes to move in altitude (up and down) and azimuth (left and right). These types of mounts are the easiest to control for casual visual observing. They are convenient to precisely locate the celestial objects with the slow motion cable controls, but they do not properly track the motion of the stars. In trying to follow the motion of a star, these types of mounts do a "zig-zag" motion, which makes them not advisable for astrophotography. The advantages of Alt-Azimuth mounts are compactness, stability and light weight, easy to set-up and use, lower cost than Equatorial mounts and ideal for terrestrial viewing.

Equatorial mounts allow the telescopes to rotate at the sidereal rate to offset the Earth’s rotation. They consist of two perpendicular axes, one aims to the celestial pole (parallel to the Earth’s axis of rotation) instead of at the horizon, and the other one is perpendicular with it. They are easy to use visually since only the axis that is parallel to the Earth’s axis of rotation needs to be rotated. When properly aligned with the Earth's poles, equatorial mounts can allow the telescope to follow the smooth, arc-like motion of a star across the sky, so they do excellent in taking long exposure photography.

ALT-AZIMUTH MOUNTS-EASY TYPE

Alt-azimuth mounts have controls to point the telescope view vertically in altitude, and horizontally in azimuth. They are commonly used for terrestrial viewing and can be used for astronomical viewing by tracking with the controls or nudging the tube. Alt-Azimuth mounts have the advantages of being lightweight, stable, compact, and very easy to use.

AZ1 & AZ2

AZ3

AZ4

MODEL	AZ 1 & AZ2	AZ3	AZ4
Mount Type	Alt-azimuth	Alt-azimuth	Alt-azimuth
Telescope Mounting	Directly to optical tube	Tube rings	1.75" Dovetail
Slow-motion Control	Vertical	Vertical and horizontal	No
Hand Control	No	No	No
Piggyback Bracket	No	Yes	No
Accessory Tray	Yes	Yes	Yes
Motor Drive	No	No	No
Tripod; Adjustable Length	Aluminum; 650mm-1200mm	Aluminum; 700mm-1250mm	1.75" Stainless steel; 630mm-1150mm Aluminum; 700mm-1250mm (Optional)
Mount Weight	0.56kg (AZ1), 0.45kg(AZ2)	1.23kg	2.94kg
Mount+Tripod Weight	1.7kg (AZ1), 1.59kg(AZ2)	3.64kg	7.64kg / 5.35kg

HDAZ

HDAZ

Sky-Watcher offers a premium grab-and-go Alt-Azimuth style mount that matches the quality, performance and appeal of our renowned Equinox apochromatic refractors. The mount is 100% machined aluminum and features buttery smooth motion on both axes.
It comes with a heavy-duty 1.75” steel-legged tripod as standard – something competitive models charge extra for. It can carry two telescopes simultaneously, or a telescope on one side and a counterweight on the other.
The HDAZ mount is excellent for daytime use. Its extremely smooth motion control is a delight whether you are following a deer walking through the woods or a celestial target at high magnification.

Features:
100% Machined Aluminum – No Plastic Parts
Super smooth motion on both axes
Can handle loads up to 80 lbs
Includes 1.75” steel leg extendible tripod
A perfect match for our 80mm APO refractors or Maksutov-Cassegrain up to 127mm.

AZGT / AUTO-TRACKING

AZGT / Auto-tracking (80)

AZGT / Auto-tracking (114)

The hand control is upgradable to SynScan Tour

Patent No.
ZL200620074655.4
US6,972,902
EP1640760(BI)
DE602005000530(T2)
AT353145(T)

The Auto-Tracking telescope is an evolutionary alt-azimuth mount that allows automatic tracking of Celestial objects without complicated add-ons. It can be used not only for astronomy but for terrestrial applications as well. It is very simple and easy to use. Highly recommended for the first-time buyers.

Optional Go-To Capability
The Sky-Watcher Auto-Tracking telescope is also available with the computerized Go-To functions. With the AZ hand control, you point your telescope at a specific object, or even tour the night sky at the touch of a button!! The user-friendly menu system allows automatic slewing to over 42,900+ objects. Telescope OTA is attached via a standard Sky-Watcher dovetail bar fitting.

Features:
Single-Arm Alt-Azimuth Mount
Powerful DC Servo Motor
Hand Control to Command the Motor
Choice of 1x, 4x or 8x Sidereal Rate Speeds in “Tracking on” mode
Choice of 32x Slow, 64 Medium or 800x High-Speed Alt-Azimuth Slewing in “Tracking off” mode, for Astronomical & Terrestrial Use
Clear Latitude Scale
Lightweight & Portable
Simple and Easy to Use

MODEL	HDAZ	AZGT / Auto-tracking (80)	AZGT / Auto-tracking (114)
Mount Type	Alt-azimuth	Alt-azimuth	Alt-azimuth
Telescope Mounting	1.75" Dovetail	1.75" Dovetail	1.75" Dovetail
Slow-motion Control	No	Motorized	Motorized
Hand Control	No	AZ SynScan (GOTO) / Auto-tracking	AZ SynScan (GOTO) / Auto-tracking
Piggyback Bracket	No	No	No
Accessory Tray	Yes	Yes	Yes
Motor Drive	No	DC servo motor	DC servo motor
Tripod; Adjustable Length	1.75" Stainless steel; 630mm-1150mm Aluminum; 700mm-1250mm (Optional)	Aluminum; 700mm-1250mm	1.25" Stainless steel; 630mm-1150mm
Mount Weight	3.32kg	1.55kg	2.31kg
Mount+Tripod Weight	8.02kg / 5.73kg	3.96kg	4kg

TRADITIONAL EQUATORIAL MOUNTS

EQ1

The equatorial mount is the most versatile telescope platform ever designed. Without question it is the most popular and utilized mounting system favored by amateur astronomers today worldwide. The elegantly appointed equatorial bodies are cast from virgin aluminum and powder coated in white or black. Setting-circles are provided in both RA and Dec. axes. The counterweight shaft is made from solid stainless steel. The provided counterweights are cast iron, powder coated black.

Equatorial mounts usually come as German equatorial or fork mounts. For alignment with the polar axis, both types of mount are set at an angle equal to the observer's latitude and pointed at the celestial pole (fork mount designs require an accessory wedge to accomplish this). German Equatorial Mounts accomplish this easily by means adjustment screws.

Movement around the polar axis is movement in Right Ascension (RA). Movement around the second axis is in Declination, so it is called the Dec axis. To track the motion of the sky a motor is added to the RA axis. The motor counteracts the rotation of the earth to keep celestial objects centered in the eyepiece of the telescope.

A second drive can be added to give declination control which is very useful for doing astrophotography. Hand controls with directional buttons are used to direct the motors. Setting circles are included as part of many equatorial mounts. When the mount is correctly polar aligned and the circles aligned using known stars, they can be an aid in locating astronomical objects. They allow the user to go to predetermined RA and Dec positions.

EQ2

EQ3

EQ5

MODEL	EQ1	EQ2	EQ3	EQ5
Mount Type	Equatorial	Equatorial	Equatorial	Equatorial
Telescope Mounting	Tube rings	Tube rings	1.75" Dovetail	1.75" Dovetail
Slow-motion Control	RA & Dec	RA & Dec	RA & Dec	RA & Dec
Hand Control	No	No	No	No
Piggyback Bracket	Yes	Yes	Yes	Yes
Accessory Tray	Yes	Yes	Yes	Yes
Motor Drive	Optional	Optional	Optional	Optional
Tripod; Adjustable Length	Aluminum; 650mm-1200mm	Aluminum; 700mm-1250mm	1.75" Stainless steel; 750mm-1270mm Aluminum; 700mm-1250mm (Optional)	1.75" Stainless steel; 750mm-1270mm
Mount Weight	1.43kg	2.32kg	4.13kg	5.71kg
Mount+Tripod Weight	2.57kg	4.73kg	8.83kg / 6.54kg	10.41kg
Counterweight(s)	2.28kg	2.28kg; 3.42kg(for BKP130650 & BKP1309)	3.42kg + 1.8kg	2*5.1kg

EQUATOTRIAL SYNSCAN MOUNTS

The Sky-Watcher SynScan-Series Equatorial mounts are premium-grade observing platforms utilizing quality mechanical and electronic platforms utilizing quality mechanical and electronic component materials throughout:

Computer Operation
Sky-Watcher SynScan-Series Equatorial mounts include the revolutionary SynScan Computer Controller. Astronomical object locating has never been easier or more fun. The telescope responds instantly to keypad commands at the touch of a fingertip. The SynScan-Series mounts can also be controlled remotely by PC using popular planetarium software via a RS232 connection on the hand-controller. There is even a GPS upgrade option to facilitate entering precise time, date, and location. Synscan firmware is upgradeable via internet download.

Motors, Gears & Bearings
The SynScan-Series models utilize high-torque DC stepper motors and micro-stepping driving technology yielding high resolution. Bronze-metal worm-gear control systems enable precise, incremental mechanical movement with minimal gear backlash.

Motor Speeds and Tracking Modes
The operating versatility of SynScan SynScanvides various guiding and slewing speeds. Tracking modes offer Lunar, Solar and Sidereal rates. Mount is compatible with operations in both the Northern and Southern hemispheres.

Database
The SynScan computer includes a celestial database of over 40,000 objects. The library includes objects for advanced studies cataloged includes objects for advanced studies cataloged within the CNGC, IC, Caldwell, and other lists, plus 25 user-defined celestial favorites.

Astrophotography
Sky imagers will appreciate the auto-guider port for guiding using a PC. SynScan firmware includes a SynScangramming algorithm for periodic error correction (such error is common to all worm-gears). In addition, SynScangramming is SynScanvided for R.A. and Dec. worm-gear backlash compensation to keep slewing and tracking response SynScanmpt and uniform.

The hand control is upgradable to SynScan Tour

EQ3 SYNSCAN

EQ5 SYNSCAN

HEQ5 SYNSCAN

MODEL	EQ3 SYNSCAN	EQ5 SYNSCAN	HEQ5 SYNSCAN
Mount Type	Equatorial	Equatorial	Equatorial
Telescope Mounting	1.75" Dovetail	1.75" Dovetail	1.75" Dovetail
Slow-motion Control	RA & Dec	RA & Dec	RA & Dec
Hand Control	EQ SynScan hand control	EQ SynScan hand control	EQ SynScan hand control
Piggyback Bracket	Yes	Yes	Yes
Accessory Tray	Yes	Yes	Yes
Motor Drive	Stepper Motor	Stepper Motor	Stepper Motor
Tripod; Adjustable Length	1.75" Stainless steel; 750mm-1270mm	1.75" Stainless steel; 750mm-1270mm	1.75" Stainless steel; 750mm-1270mm
Mount Weight	5.89kg	5.99kg	10.22kg
Mount+Tripod Weight	10.59kg	10.09kg	14.92kg
Counterweight(s)	3.42kg + 1.8kg	2*5.1kg	2*5.1kg

EQUATOTRIAL SYNSCAN MOUNTS

The hand control is upgradable to SynScan Tour

EQ6 SYNSCAN

NEQ6 SYNSCAN

MODEL	EQ6 SYNSCAN	NEQ6 SYNSCAN
Mount Type	Equatorial	Equatorial
Telescope Mounting	1.75" Dovetail	2.6" Dovetail
Slow-motion Control	RA & Dec	RA & Dec
Hand Control	EQ SynScan hand control	EQ SynScan hand control
Piggyback Bracket	Yes	Yes
Accessory Tray	Yes	Yes
Motor Drive	Stepper Motor	Stepper Motor
Tripod; Adjustable Length	2" Stainless steel; 750mm-1270mm	2" Stainless steel; 750mm-1270mm
Mount Weight	16.63kg	17.03kg
Mount+Tripod Weight	24.13kg	24.53kg
Counterweight(s)	2*5.1kg	2*5.1kg

Dual Encoder Design

With the patented dual encoder design, you may move the telescope to any position manually or electronically without deactivating the tracking mode first. After moving to a new object, the telescope will automatically begin to track the new object accurately. No re-setup is required in one observing session.

Motors

It utilizes 0.9 degree per step bipolar stepper motors to get high resolution. It uses stepper motors without reduction gear to drive worm shaft directly so to remove the periodic error caused by reduction gear.

Computer Operation

Couple this solidly-built mount with the included SynScan computer controller to utilize many of the same functions and features as Sky-Watcher's most advanced SynScan mounts. It also could be controlled by SynScan Tour

PEC

Permanent programmable periodic error correction (PEC) – corrects for periodic tracking errors inherent to all worm drives.

Convenient Alignment

It could go back to initial position of the telescope automatically, which is convenient for alignment.

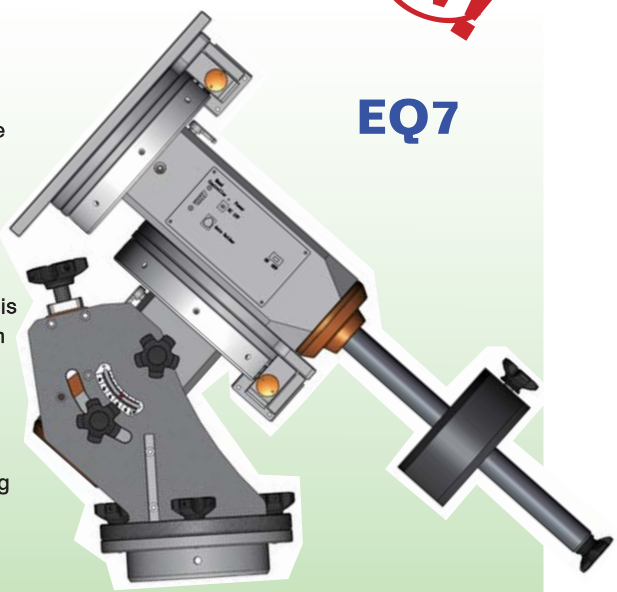
Superior Stability

The EQ7 mount is supported by an improved Super HD Tripod. The tripod is made from the finest cold rolled carbon steel and can be raised to a height of 1347mm. The tripod uses a dual leg support for maximum rigidity with an upper leg brace to provide an outward preload and a lower leg brace providing inward tension.

45kg Payload Capacity

NEW!

EQ7



*The picture is for reference only, the appearance of the real product might be different.

NEW!

PANORAMA & GOTO MOUNT

We are very proud to launch this powerful upgraded multi-function alt-azimuth mount!

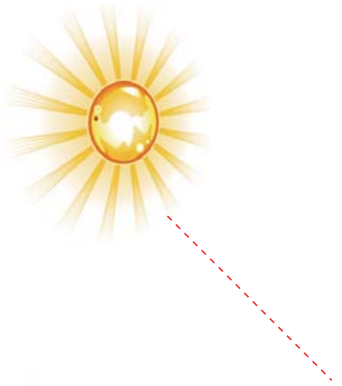
Panorama

The arm of the mount could be rotated by 180 degrees for different uses.

While the mounting platform is inward, you can attach your camera to the mount. The mount's vertical shaft is concentric with the camera's optical axis, so that the camera could achieve 360-degree panorama.

Patent No.:
ZL200580034756.7
US7,228,253

Patent Application No.:
EP05777672.6



Portable Solar Energy Plate

While the mounting platform is outward, it becomes a Go-To mount. Unlike other Go-To mounts, with a patented dual encoder design, you may choose to manually, or electronically, move the telescope to any position without deactivating the tracking mode first. After moving to a new object, the telescope will automatically begin to track the new object accurately. No re-setup is required in one observing session. And it could always find the objects accurately even if you touched it during seek.

With the sun tracking system, it could keep the solar energy plate perpendicular to the sun's rays all the time.

The hand control is upgradable to SynScan Tour

*The above pictures are for reference only, the appearance of the real product might be different.

MULTI-FUNCTION MOUNT

ALL IN ONE
CAMERA, SPOTTER, AND TELESCOPE

Specifications:

- Latitude input by axis dial on the arm
- DC servo motor assembly
- LED display of functions
- Single fork arm with quick mounting tube ring
- Uses 8AA alkaline batteries (user supplied)
- Available with full-length camera tripod or table top tripod
- Slewing speed up to 800X
- IR encoder with optical wheel
- AC Adapter available optionally

Patent No.

US6,972,902 DE602005000530(T2)
EP1640760(BI) AT353145(T)
ZL200620074655.4 ZL200630140349.1

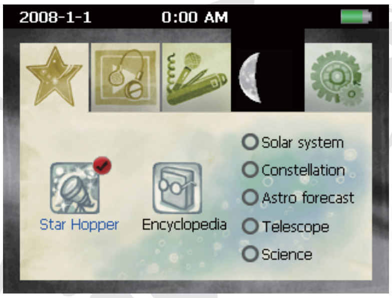
NEW!

SynScan Tour

A revolutionary new computerized hand control!

Patent No.
ZL200930238540.3
ZL200820180451.8

Patent Application No.
200820178045.8
201010105642.X
200810180631.0



Features

1) Celestial object orientation
The SynScan Tour will guide you to find the star or celestial object, if you provide it with the star or celestial object's name or number! It only takes ten seconds!

2) The Starry Sky Guide
The menu is dynamically displayed, consisting of the visible, well-known, fascinating list of celestial objects in the current sky for you to explore them one by one.

3) Astronomical information in Multimedia
SynScan Tour has built-in basic data for 58,000+ celestial objects, text information, audio commentary, and exquisite photographs of the deep space celestial objects. You can enjoy the mysterious night sky, while checking up on the information on the various celestial objects.

4) The Telescope Control
SynScan Tour is a telescope that has a variety of Alt-azimuth or equatorial direct controls, to achieve high-precision auto-star finding feature. Watching the deep-space celestial objects no longer means hard and laborious searching. Within a few hours of a night's observation time, dozens of deep sky celestial objects can be traversed.

5) Infrared Sensor
The machine comes with an infrared sensor. When you leave, you can use the machine's stand-by functions, set reminders for people who use the SynScan Tour after, leave a message or layout tasks, etc.

6) Bagua and Feng Shui
According to the theory of China's theories of Bagua, the machine is designed with the Bagua feng shui feature. Through your birthday, the five elements Bagua and your good or bad fortune numerology and location can be calculated to point out how you can stay out of trouble.

7) Serial port, Mini USB port and Headphone jack
It has a serial port to connect to telescopes and GPS modules, a mini USB port used to connect to computers and a headphone jack used to connect to headphones.

8) Other features
It can also provide you with location data, and other recreational functions including playing audio and video files and recording audio.

Main Menu	Sub-Menu	Function
Sky	Sky Hopper	Instant star map and telescope controls
	Encyclopedia	Astronomy information and trivia
Media	Sound	Playback of audio files
	Picture	Browse pictures
	Video	Playback of video files
Tools	Calculator	A simple calculator
Eyepiece Holder Diameter	Notebook	Create and edit notes
Tube Dimension (D x L)	Compass	A numerical compass
Eyepiece	Recorder	A sound recorder
Finder Scope	Feng-Shui Compass	Calculation of Bagua and personal fortune
Lunar Phase		Displays the moonrise, moonset, and twilight times of each day
Setting	System	Backlight, volume, language, touch screen calibration, and display function settings
	Date/Time	System date/time settings
	Location	Setting of current geographical coordinates
	File Manager	Manage file contents of internal, USB, and SD card memories

SynGuider

Patent No. ZL200830348224.7 ZL200920160274.1

The SynGuider can guide an equatorial mount without the help of a computer. It will improve the image quality and help you achieve pin-point stars in you long exposure photography.

Features

1. stand-alone unit
2. CCD sensor
3. LCD display shows real-time star image
4. ST-4 auto-guiding port
5. M42 and 1.25" telescope port
6. firmware upgradeable via internet

Specifications

Image Sensor
Type: SONY ICX404AL CCD Sensor
Chip Size: 5.59mm(X) * 4.68mm(Y)
Number of Effective Pixels: 510(X) * 492(Y)
Unit Cell Size: 9.6um(X) * 7.5um(Y)
Formula for Angular Resolution in Arc Second:
Resolution(X) = 2261/FL
Resolution(Y) = 1962/FL
FL is the focal length of the guide scope in millimeters.

Power Supply
DC 6V ~ 14V, 250mA
Power Jack: 2.1mm, tip positive

Exposure Time
1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096 mS

Sensitivity
Typically, the SynGuider can capture and guide a star with up to the magnitude of 8 under the following conditions: regular 80mm aperture refractor, 2048ms exposure time, and good seeing conditions.

Guidescope Mount

Unlike the tradition guidescope holder relying on screws pushing on the body of the tube to hold the guidescope securely, this ultra stable guidescope mount features a dovetail mounting system for quick-release attachment/detachment. Aligning the guidescope to the OTA is easy as the adjustment is by made in two different axes separately controlled by two different knobs. The mount also features a ¼-20 screw to hold a camera so it can also function as piggyback mount.

EYEPIECES

Zoom

These zoom eyepieces provide the benefits of a continuous adjustable power at an affordable price. It allows you to find an object at low power, then zoom in until you reach the desired magnification. The fold-down rubber eyecup provides comfortable viewing for eyeglass wearers.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
7-21mm	30°- 43°	1.25"
8-24mm	40°- 60°	1.25"

Kellner

These 3-element kellners offer amateurs an excellent alternative to expensive oculars. The lenses are carefully polished from quality optical glass to ensure sharpness. All five kellners are fully coated with anti-reflection material to maximize light transmission and improve image contrast.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
6.3mm	50°	1.25"
10mm	50°	1.25"
12.5mm	50°	1.25"
17mm	50°	1.25"
25mm	50°	1.25"

LET

These eyepieces allow 20mm of eye relief for your viewing comfort even at high power. The rubber eyecups are included to keep out extraneous light. These eyepieces are especially valuable for observers wearing eyeglasses. They provide long enough eye relief to take in the entire field of view when viewing with eyeglasses on.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
2mm	45°	1.25"
5mm	45°	1.25"
9mm	50°	1.25"
15mm	50°	1.25"
20mm	50°	1.25"
25mm	50°	1.25"
28mm	56°	2"
35mm	56°	2"
42mm	52°	2"

Plössl (PL)

Among the most popular designs today, these 4-element plössl eyepieces provide excellent sharpness and impressively high contrast. All seven plössls are fully-coated for maximum light transimission. Ideal for all observing purposes.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
6.3mm	50°	1.25"
7.5mm	50°	1.25"
10mm	50°	1.25"
12.5mm	50°	1.25"
17mm	50°	1.25"
20mm	50°	1.25"
25mm	50°	1.25"

EYEPIECES

Super Plössl (SP)

SP series eyepieces set the performance standard for modern telescope oculars. The proven 4-element plössl design delivers edge-to-edge blackened elements, providing the highest contrast images attainable. Sp series eyepieces minimize spherical aberration, distortion, astigmatism and off-axis color while oversize optical elements afford the observer luxurious eye relief. Stray light is eliminated by the fold back rubber eyecups standard with every sp eyepiece. All but the lightest four models feature the security of rubber grips.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
6.3mm	52º	1.25"
7.5mm	52º	1.25"
10mm	52º	1.25"
12.5mm	52º	1.25"
17mm	52º	1.25"
20mm	52º	1.25"
26mm	52º	2"
32mm	52º	2"
40mm	52º	2"

SWA (Super Wide Angle) 70º

This high quality, 8-element, multi-format eyepieces feature a clever design allowing it to be adaptable for either 1.25" or 2" eyepiece tube barrels. Threaded for 1.25" filters.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
5mm	70º	1.25" with a 2" adapter
8mm	70º	1.25" with a 2" adapter
13mm	70º	1.25" with a 2" adapter
17mm	70º	1.25" with a 2" adapter
22mm	70º	2"
32mm	70º	2"

UWA (Ultra-Wide Angle) 58º

This series of eyepieces is modified Plössls that have been optimized for planetary observations. They feature long eye relief combined with large exit pupil.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
2.5mm	58º	1.25"
3.2mm	58º	1.25"
4mm	58º	1.25"
5mm	58º	1.25"
6mm	58º	1.25"
7mm	58º	1.25"
8mm	58º	1.25"
9mm	58º	1.25"
15mm	58º	1.25"
20mm	58º	1.25"
25mm	58º	1.25"

Flat

Edge-on eyepieces offer premium performance at an amazing price!
Flat-field design means sharp focus from the edge to the center of the viewing field.
Features multicoated optics, all-black anodizing, twist-up eye guards, and par-focal design.
Large eye lens and long eye relief mean comfortable viewing, even for long observing sessions.
Threaded to accept all 1.25" filters.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
16mm	60º	1.25"
19mm	65º	1.25"
27mm	53º	1.25"

Illuminated Reticle Eyepiece

This multi-function guiding eyepiece features a laser-etched double crosshair reticle with a built-in battery illuminator. This 12.5mm eyepiece is multi-coated with an apparent field of view of 40°. Battery is included.

Focal Lengths	Apparent Field Of View	Eyepiece Barrels
12.5mm	40°	1.25"

1.5x Erecting Eyepiece

This 10mm erecting eyepiece can be used on any telescope, refractor or reflector to correct the orientation of the image.
On a refractor: the erecting eyepiece can be used on any refractor, even a short-tube. It works alone without a diagonal. The extension tube is needed only when focus can not be reached by using the erecting eyepiece alone.
On a reflector: with the erecting eyepiece attached to your Newtonian Telescope, images are easily corrected while still maintaining their quality and clarity.

Object Finder

Collimators

CEA Collimator
Ideal for Refractors

CE Collimator
Ideal for Newtonian Reflectors

PT5 & PT6 Polar Scope

PT5 -- suitable for EQ3 & HEQ5 SynScan mounts.
PT6 -- suitable for EQ5, EQ6 SynScan & NEQ6 SynScan mounts.

Finderscopes

Red Dot Finderscope
(With Two Holes In The Bracket)
Zero magnification pointing tool

Red Dot Finderscope
(With Two Hole In The Bracket)
Zero magnification pointing tool
Not suitable for telescopes without finder scope bracket base

6x24 Finderscope

6x30 Finderscope

8x50 Finderscope

6x30 Right Angle Correct Image Finderscope

8x50 Right Angle Correct Image Finderscope

6x30 Illuminated Finderscope
Adjustable intensity illuminator

8x50 Illuminated Finderscope
Adjustable intensity illuminator

6x30 Finderscope Die-Casting Mounting Bracket

8x50 Finderscope Die-Casting Mounting Bracket

Barlow Lens

Short Barlow Lens (2x)

2x ED Barlow Lens

2"-To-1.25" Adapter

With this adapter, you can use 1.25" eyepieces in any 2" focuser or star diagonal.

Diagonals

1.25" 45° Diagonal

1.25" 45° Erect Image Diagonal

1.25" 90° Diagonal

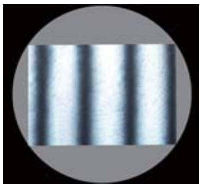
1.25" 90° Mirror Diagonal

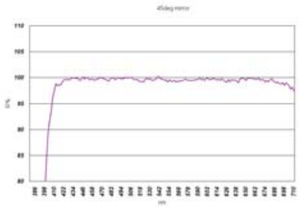
1.25" Dual Angle Diagonal (45° & 90°)

2" 90° Diagonal

2" 90° Mirror Diagonal

2" Deluxe Dielectric Coated Diagonal





These highest-quality 2" Dielectric Diagonals have undergone a special high-reflectivity multi-coating process, boasting them to reflect 99% of the precious gathered starlight, providing exceptional brightness and contrast. (Standard diagonals typically reflect 90-95% of light). These sophisticated, lab-tested dielectric diagonals are more durable than standard diagonals with enhanced aluminum coatings, so you'll enjoy years of exceptional performance.

Motor Drives

Focus Drive

Economical Tracking Motor For EQ1 & EQ2

9-Volt Alkaline battery included

EQ1 Single Axis DC Drive System

EQ2 Single Axis DC Drive System

EQ3 Single Axis DC Drive System

EQ5 Single Axis DC Drive System

EQ3 Dual Axis DC Drive System

EQ5 Dual Axis DC Drive System

EQ6 Syntrek Upgrade Kit

EQ6 Synscan Upgrade Kit

Also available for EQ3 & EQ5

Flashlights

LED Flashlight

Dual-Beam Flashlight

Cooling Accelerator Fan

Solar Filters

Size available:
76mm, 80mm, 90mm, 102mm,114mm, 120mm, 127mm, 130mm, 150mm, 180mm, 200mm, 250mm, 300mm

Color Filters

NO.56, NO.58, NO.25, NO.21, NO.12, NO.80A

2.6" Dovetail Holder

Suitable for EQ6 mounts

Counterweights

For EQ1 and EQ2 mounts

For EQ3 and EQ3 SynScan mounts

For EQ5, EQ5 SynScan, HEQ5 SynScan EQ6 SynScan and NEQ6 SynScan mounts

Dovetail Bars

Provides a quick-release platform for attaching telescope tubes to EQ3, EQ3 Synscan, EQ5 SynScan, HEQ5 SynScan, EQ6 SynScan and NEQ6 SynScan mounts

120SS-A00-7B
Suitable for focal length < 500mm Refractors and Reflectors

120SS-A00-7
Suitable for 500mm ≤ focal length < 900mm Refractors and Reflectors

150S-0-14
Suitable for focal length ≥ 900mm Refractors and Reflectors

P300-A00-2
Special for BKP300

Foam-Padded Aluminium Carrying Cases

Available for Equinox ED60, Equinox ED80, Equinox ED100, Equinox ED120, BKED80, BKED100, BKED120, 5-Element ED100, 3-Element ED120, 3-Element ED150, EQ3 SynScan mount, EQ5 SynScan mount, HEQ5 SynScan mount, EQ6 SynScan mount and NEQ6 SynScan mount

Pillar Mounts

Support For HEQ5 SynScan, EQ6 SynScan & NEQ6 SynScan Mounts

Extension Tubes

HEQ5 SynScan Extension Tube

EQ6 SynScan & NEQ6 SynScan Extension Tube

Accessories for Photography

0.85x Focal Reducer 80/100/120

For Sky-Watcher black diamond ED80/100/120

2" Coma Corrector

For F/5 Newtonian Reflectors

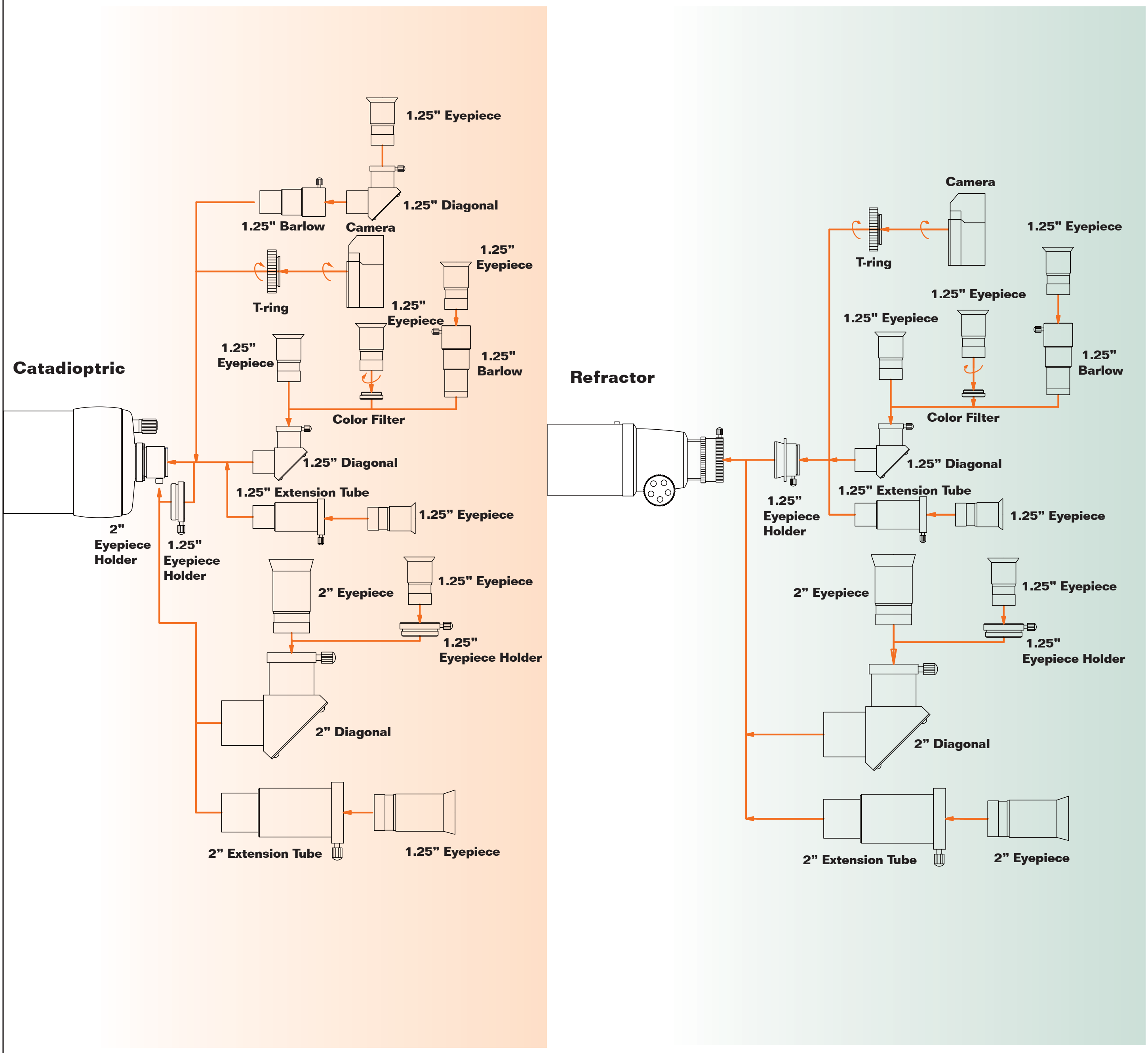
Canon/Nikon/Sony M48 T-rings

Designed for attaching a Canon/Nikon/Sony DSLR camera to any of the Sky-Watcher 0.85x focal reducer/corrector

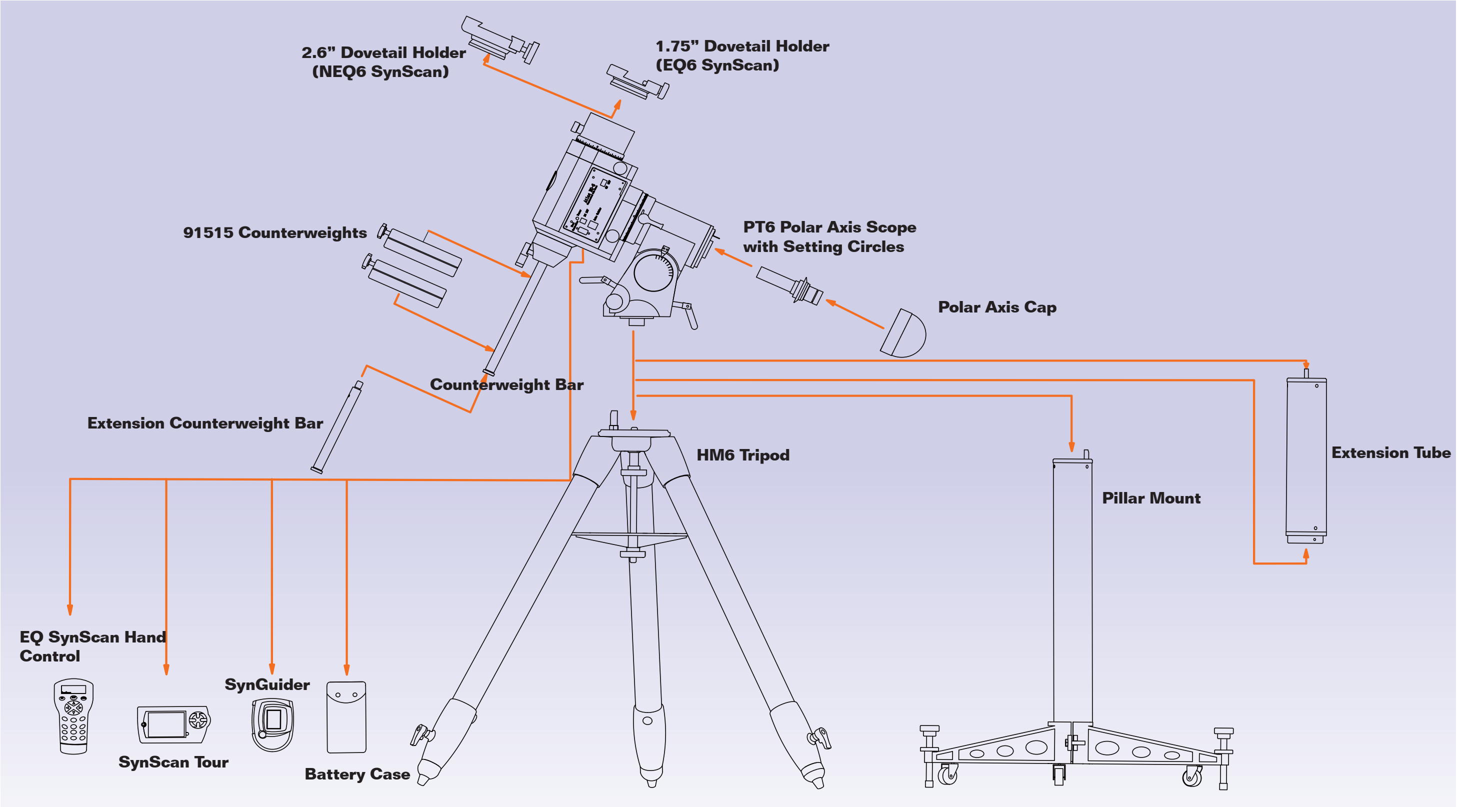
SLR Camera Mount

Universal Digital-Scoping Adapter

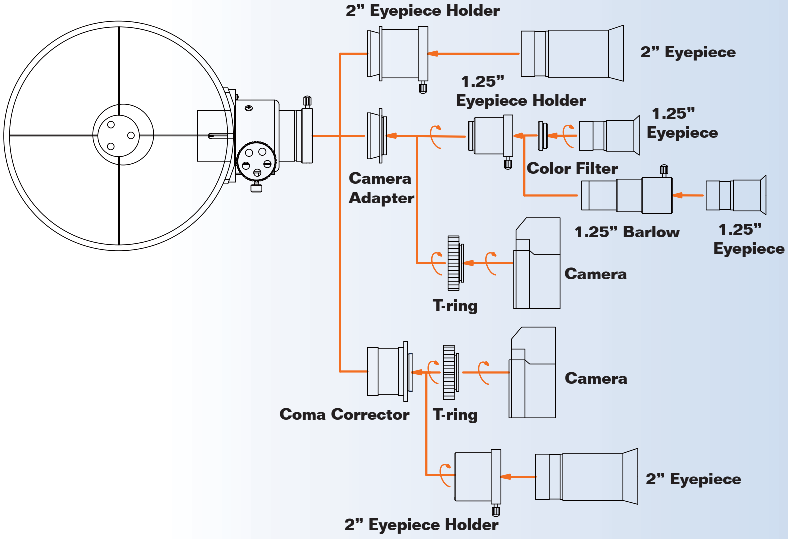
Photographic Accessory Chart

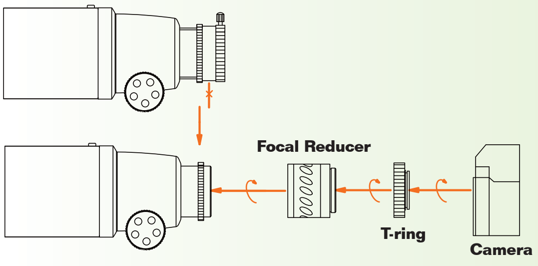


EQ6 SynScan / NEQ6 SynScan Mount



Reflector





Sky-Watcher®

PATENT NO.

US7,301,698

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ZL200620074655.4

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200720127370.7

Suzhou Synta Optical Technology Co.,Ltd. **www.skywatchertelescope.net**

Add: No.65 Yushan Road New District Suzhou China
Phone: +86-512-68088326 Fax: +86-512-68091278
E-mail: synta@vip.sina.com